HEARING ON THE ROLE OF THE POWER MARKETING ADMINISTRATIONS IN A RESTRUCTURED ELECTRIC INDUSTRY

HEARING

BEFORE THE

SUBCOMMITTEE ON WATER AND POWER

OF THE

COMMITTEE ON RESOURCES
HOUSE OF REPRESENTATIVES

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THE ROLE OF THE POWER MARKETING ADMINISTRATIONS IN A RESTRUCTURED ELECTRIC INDUSTRY

THURSDAY, JUNE 24, 1999

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON WATER AND POWER,
COMMITTEE ON RESOURCES,
Washington, DC.

The Subcommittee met, pursuant to notice, at 2:04 p.m., in Room 1334, Longworth House Office Building, Hon. John Doolittle [chairman of the Subcommittee] presiding.

STATEMENT OF HON. JOHN DOOLITTLE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. DOOLITTLE. The Subcommittee on Water and Power will come to order.

We are meeting today to hear testimony on the role of the Federal Power Marketing Administrations in a restructured electric industry. The first section of the hearing is devoted to issues regarding the overall restructuring, while the second half of the hearing discusses the overall restructuring as it relates to the Power Marketing Administrations.

I also want to call everyone's attention—and I'll say this again when we get more members here—but for the witnesses, through the miracle of technology, everything you say over these microphones will be broadcast on the Internet around the world. So keep that in mind during the recesses.

Although the Commerce Committee has the lead on the electric industry restructuring initiative, the House Resources Committee has legislative responsibility for the generation and marketing of electric power from Federal Regional Power Marketing Agencies. The Subcommittee on Water and Power oversees the Power Marketing Administrations within the Department of Energy, which market the electrical power produced at Federal water projects. Since the PMA's market more than 6 percent of all electric power generated in the United States, they play a significant role in any legislation before Congress that seeks to restructure the $200 billion-per-year electric power industry.

Over the last four years, this Subcommittee has held several hearings to address the efficiency of the PMA's and the underlying generation and transmission assets. We have also remained deeply involved in the general debate concerning restructuring of the electric power industry as well as PMA's specific initiatives.

This hearing is the first hearing in a series that will examine the role of the PMA's in restructuring. It will focus on the parameters of the broader restructuring debate itself rather than the specific issues that arise in the individual PMA service areas. It will discuss the Federal legislative and regulatory steps that are driving the restructuring. It will also look at the responses of the States and the dramatic changes in the technology that will affect both restructuring generally and management of PMA assets in particular. A number of affected groups will testify on the impact and issues involved in restructuring and how PMA management and mission affect those issues. Finally, there will be consideration of how the PMA's in a restructured environment will be able to repay the Federal investment in PMA and generating agency assets.

Future hearings will be directed to the issues that are unique in each of the PMA service areas. Thereafter, we will take up the various legislative options that are under consideration. At that time, I know, there are several members of the Subcommittee who may have specific provisions that they will want to have considered. And I urge members to reserve their debate on those issues for those later hearings.

The overall argument over whether or not the electric industry should be restructured has largely been decided. While States and the Federal Government are moving at different speeds toward restructuring and sometimes in different directions, the advantages to consumers resulting from competitive markets for electricity services are real and warrant fundamental changes in the laws and regulations governing the industry.

Indeed, many of the States, the industry as a whole, and the technology itself have moved us rapidly in that direction over the last few years. While the need for restructuring is easily answered, the challenge remains how we restructure.

As one of our witnesses will remind us, it is also the question of whether we should be restructuring or deregulating the marketplace. One of the tough problems facing policy-makers at the Federal level is the overlapping jurisdiction with the States, respect for the principle of Federalism and States rights have led to the establishment of a dual system of regulation between the Federal Government and the States.

We are far from the end of this debate. This set of hearings should be very interesting, particularly since the assets this Subcommittee must deal with are Federal rather than local.

During the course of this hearing, I am especially interested in getting answers to three questions. One, what will competitive electricity markets of the future look like? Two, how will the management of the PMA's affect electricity competition? And three, how do we ensure local benefits and open the marketplace and fair competition?

I look forward to hearing the testimony of today's witnesses.

I don't see that I have a Ranking Member with us at this time, and should he wish to offer his opening statement, I will yield to him.

In the meantime, I would like to invite our first panel of witnesses to come forward. And if you would, remain standing, please, so that I can administer the oath.

Okay. Would you please raise your right hand?

[Witnesses sworn.]

Let the record reflect that each of our witnesses answered in the affirmative.

And, gentlemen, please be seated. We are very pleased to have you here.

The custom of the Committee is to turn on the yellow light at the beginning of your fifth minute. Please don't cut off your testimony when the red light goes on, but it is an indicator that is a guide. Take it for that.

We are very appreciative of having the expertise available to us today, and we would like to begin by introducing the Chairman of the Federal Energy Regulatory Commission, Chairman Hoecker, James Hoecker.

STATEMENT OF JAMES J. HOECKER, CHAIRMAN, FEDERAL ENERGY REGULATORY COMMISSION

Mr. HOECKER. Thank you, Mr. Chairman. I appreciate very much your invitation to appear today. I am here to outline what is being accomplished at the FERC in wholesale power markets, which is the focus of its jurisdiction under the Federal Power Act.

In the broadest sense, competition is growing in wholesale power markets in response to various factors: the Energy Policy Act of 1992 and technological and business developments and the Commission's efforts to remove barriers to competition and to let markets, not regulators, determine the price of wholesale power.

Wholesale competition will provide substantial benefits to industry and to consumers, including innovative services, supply options, and the prospect of reduced prices for energy end-users. Even where retail choice is unavailable, wholesale competition will lower the cost of power purchased by utility suppliers for resale in that retail market.

The Commission is promoting competition in wholesale power markets primarily through two key initiatives. The first initiative is Order No. 888, which we adopted in 1996. It sought to promote competition by increasing the availability of transmission services that sellers and buyers depend on in order to trade power.

Order No. 888 required each public utility that owns, controls, or operates transmission facilities to file an open-access, non-discriminatory transmission tariff with us. Order No. 888 also allowed a utility to seek recovery of its so-called stranded costs. These are costs of utility generation plants incurred to serve a customer that, in an open-access environment, uses the utility's transmission to buy power from someone else, even though that utility may have had the reasonable expectation of serving that customer indefinitely.

In the three years since the issuance of Order No. 888, the power industry has undergone extensive change. Many electric utilities have merged with other electric utilities and even gas utilities.

A large number of new sellers have entered the wholesale power market. Traditional utilities have sold 10 percent of the Nation's generating capacity to new operators. About two dozen States have started or set a date for retail competition.

And in response to growing wholesale competition, transmission access, and State policy decisions, it is more important than ever to manage transmission operations regionally.

Because of continuing engineering and economic inefficiencies as well as the continuing ability of transmission owners to discriminate against others who want to use their wires to gain access to markets, the Commission recently proposed a second initiative. It strongly encourages the voluntary formation of regional transmission organizations or RTOs.

If RTOs meet certain minimum requirements under our proposal, such as a sufficient geographic scope and independence from any power seller or buyer, they will be able to lead us toward a fairer, more efficient, and more reliable system for trading bulk power.

The Commission's proposed rules seek to encourage not only public utilities, but also non-public utilities such as Power Marketing Administrations to join RTOs. However, the Commission can order transmission over PMA facilities in only limited circumstances. And the PMAs are not subject to the same Order 888 open access rules applicable to public utilities.

Although I am pleased to say that three PMAs voluntarily offer transmission service under open access tariffs that are on file with us, the differences and applicability of competitive open access among owners of transmission should, nevertheless, be eliminated. To ensure that transmission service is available from the PMAs and other non-public utilities, and as readily as it is from public utilities, the Congress will have to act.

Competitive power markets will depend on a transmission network that is as open and as accessible as possible. Transmission policy in the areas of open access, regional operations, and reliability should be crafted to recognize that transmission facilities owned by PMAs are integral parts of the power grid.

Mr. Chairman, members of the Committee, I want to thank you for the opportunity to share with the Subcommittee the Commission's perspective on electric restructuring. And I will be pleased to answer your questions.

[The prepared statement of Mr. Hoecker follows:]

Testimony of
Chairman James J. Hoecker
Federal Energy Regulatory Commission
before the
Subcommittee on Water and Power
Committee on Resources
United States House of Representatives

June 24, 1999

Mr. Chairman and Members of the Subcommittee:

I am pleased to appear before you today to discuss the status of federal regulatory initiatives on electricity restructuring and the future of the power marketing administrations. Thank you for this opportunity.

The Federal Energy Regulatory Commission (Commission or FERC) is fully engaged in promoting competition in the wholesale or "bulk power" market, consistent with the goals of the Energy Policy Act of 1992. To achieve these goals, the Commission's fundamental regulatory policies are to substitute competition for price regulation in wholesale power markets to the extent possible, and to regulate essential transmission facilities so as to enable competition in power markets.

My testimony will focus on two Commission initiatives that are very important for promoting wholesale competition. The first initiative, Order No. 888, has for three years promoted competition by requiring that owners of high voltage transmission make services available to all sellers and buyers of wholesale power that are comparable in quality to the transmission services they provide for their own generation. The Commission's second initiative, a proposed rule adopted unanimously on May 12, 1999, seeks substantial additional efficiencies and competitive benefits by strongly encouraging the formation of regional transmission organizations, or "RTOs," to operate the transmission grid on a regional basis. Finally, I will address how the competitive market would benefit if the transmission services of the Tennessee Valley Authority and the federal power marketing administrations were subject to the same rules the Commission either applies or proposes to apply to public utilities.

Jurisdictional Background

The Commission's jurisdiction under the Federal Power Act (FPA) extends to sales of electricity by "public utilities" to

other utilities -- that is, wholesale transactions -- and transmission in interstate commerce by public utilities. Public utilities are mainly investor-owned utilities. Federal power marketing administrations (PMAs), municipal utilities, and those rural electric cooperatives still owing debt to the Rural Utilities Service are not public utilities. While the Commission has jurisdiction under sections 211 and 212 of the FPA to order those non-public utilities to provide transmission in certain circumstances, this jurisdiction is limited. The Commission also has very limited authority, by delegation from the Secretary of Energy, to review rates charged by the PMAs.

Sections 205 and 206 of the FPA require the Commission to ensure that the rates, terms and conditions imposed by public utilities for wholesale sales and transmission in interstate commerce are just and reasonable and not unduly discriminatory or preferential. Courts have construed this responsibility to include consideration of any anticompetitive effects of regulated aspects of utility operations. (E.g., Gulf States Utilities Co. v. FPC, 411 U.S. 747 (1973)).

The Commission does not regulate either the sales directly to consumers or the local distribution of electricity. Those retail services are generally regulated by the states. The electricity prices paid by retail consumers nevertheless include the cost of any power purchased by their utility suppliers in wholesale markets. So, competition in bulk power markets ultimately benefits consumers by reducing the cost of power supplied to them, whether or not a state chooses to allow retail competition.

The development of competition in bulk power markets depends substantially on whether wholesale sellers are able to deliver power to buyers anywhere in the market. Access to buyers is key. In the electric industry, transmission facilities make this possible by forming an interstate grid for delivering power, in the same way the interstate highway system allows trucks to deliver other commodities. There are important differences, however. Electricity cannot be stored. It is delivered instantaneously over an integrated network of wires and a transaction between two parties can affect the capacity of the system and thereby the transactions of others. Most importantly, the electrical grid is owned by individual utilities and, absent regulation, these utilities can effectively prevent the use of these facilities by their competitors.

Recent Developments In Regulation Of Wholesale Markets

Public utilities, once presumed automatically to be vertically-integrated monopolies in need of heavy regulation, have been increasingly subject to the forces of competition over

the past two decades. This is attributable to a complex combination of economic, legislative, and technological developments. Most notably, Congress gave competition a strong boost in the Energy Policy Act of 1992, increasing the Commission's authority under FPA section 211 to order transmission service in appropriate circumstances, even over the wires of TVA or an ERCOT utility. AES Power Inc., 74 FERC ¶ 61,220, order on reh'g, 76 FERC ¶ 61,165 (1996). In addition, the Commission has increasingly relied on light-handed rate regulation for power suppliers shown to lack market power, specifically by allowing power sales at market rates instead of rates determined by the Commission based on the cost of service. To date, the Commission has authorized market-based rates for hundreds of power suppliers. These authorizations, in effect, have induced many non-traditional competitors into the business of buying, selling, and trading bulk power.

Order Nos. 888 and 889

Several years ago, the Commission recognized that competition in wholesale markets was being inhibited by the lack of non-discriminatory access to transmission facilities. Sellers of power who also owned transmission facilities were stifling competition by discriminating against others seeking to use their transmission facilities, either by denying or delaying transmission service or by imposing discriminatory rates, terms and conditions for service.

Consequently, in 1996, the Commission adopted new rules called Order Nos. 888 and 889, seeking to promote both competition by thwarting undue discrimination in the provision of transmission services and market transparency by encouraging disclosure of real-time information about transmission capacity. Order No. 888 required all public utilities that own, control, or operate facilities used for transmitting electric energy in interstate commerce to: (1) file open access non-discriminatory transmission tariffs containing, at a minimum, the non-price terms and conditions set forth in the Order; and (2) functionally unbundle wholesale power service. Under functional unbundling, the public utility must take transmission service under the same tariff by which it offers service to others and must provide separate rates for wholesale generation, transmission, and ancillary services.

The above-mentioned limits on the Commission's transmission jurisdiction prevented the requirements of Order No. 888 from applying to the one-third of the transmission system owned by non-public utilities. Order No. 888 therefore provided that any non-jurisdictional entities seeking to use the new open access transmission tariff of another utility must offer reciprocal transmission service to the public utility providing service to

them, unless such users had no transmission facilities. The reciprocity principle was applied to all transmission users, including the PMAs, municipal utilities and cooperatives still owing debt to the Rural Utilities Service. The Commission intended to prevent users from taking advantage of competitive opportunities allowed by open access while offering only inferior service, or no service at all, over their own facilities. The Commission also provided "safe harbor" rules allowing users to demonstrate that the services they offered met this requirement. A number of users have satisfied these safe harbor rules.

Taking a tentative step beyond functional unbundling, Order No. 888 encouraged, but did not require, the formation of Independent System Operators (ISOs), regional entities that would operate transmission facilities owned by others. While the Commission believed ISOs could provide significant benefits, such as more opportunities for trading power regionally, improved transmission pricing, and greater assurance of non-discriminatory transmission services, Order No. 888 only enunciated the eleven principal attributes of ISOs that could be used to evaluate future ISO proposals.

Order No. 888 also addressed market-based rates for proposed new power plants. The Commission concluded that utilities seeking such rates for future power plants would no longer be required to demonstrate a lack of generation-based market power, unless an intervenor in the case presented specific evidence of a seller's market power. We have since relied on this policy in granting market-based rates to many applicants.

The Commission recognized that Order No. 888's open access transmission tariffs could allow a customer to use a public utility's transmission facilities to begin buying power from a new wholesale power supplier other than its existing public utility supplier. If this happened, the Commission announced that it would allow the public utility to seek recovery of its legitimate, prudent, and verifiable "stranded costs," so long as the utility had a reasonable expectation of continuing to serve the wholesale customer. Many stranded cost claims have been settled or obviated by the sale of generation assets at prices above their book value; the Commission has fully adjudicated and ruled on only one stranded cost case. City of Las Cruces, N.M. v. El Paso Electric Co., Opinion No. 438, 87 FERC ¶ 61,201 (1999).

The Commission also said that, if costs are stranded by retail competition, utilities should look to the states first for recovery of those costs. The Commission would become involved only if state regulators lack authority under state law to provide for stranded cost recovery. In cases where retail customers become wholesale purchasers, the Commission said it

would be the primary forum for recovery of stranded costs but would give substantial deference to any state determinations.

Order No. 889, adopted concurrently with Order No. 888, required public utilities to establish or participate in Open Access Same-Time Information Systems (OASIS), Internet-based systems for posting information about available transmission capacity and making reservations for transmission services. Order No. 889 also required public utilities to comply with standards of conduct designed to prevent their employees (or the employees of their affiliates) engaged in wholesale power marketing functions from obtaining preferential access to transmission system information.

Subsequent Changes In The Industry

Since the Commission adopted Order Nos. 888 and 889, the pace of change among utility companies has continued to accelerate. The Commission has reviewed and acted upon almost two dozen major utility mergers. Electric utilities and gas pipeline or distribution companies have combined to form major energy concerns. Traditional electric utilities have divested ten percent of the Nation's electric generation plants, and a number of these utilities are seeking to become only "wires" (i.e., transmission and distribution) companies. The number of power marketers and independent generation facility developers entering the marketplace has continued to rise, placing additional competitive pressure on traditional utilities. Six ISOs, four of which are currently operational (including the ERCOT ISO, which is not regulated by FERC), have been established to operate regions of the transmission system. Several state legislatures have required their utilities to join a FERC-approved regional transmission entity. Trade in bulk power markets has continued to increase significantly and the Nation's transmission grid is being used more heavily and in new ways, sometimes creating new patterns of congestion. Finally, 20 state legislatures have enacted legislation to initiate, or set a date for, retail electricity competition, and a handful of utility commissions in other states have done the same by regulation. In other words, the regulated industry has had to change to meet the strategic and economic challenges of the competitive marketplace.

Yet, despite the growth in competition following Order Nos. 888 and 889, not all potential market problems have been addressed. The remaining impediments to full competition fall largely into two categories. First are the engineering and economic inefficiencies inherent in the current operation and expansion of the transmission grid, inefficiencies that are hindering fully competitive power markets and imposing unnecessary costs on electric consumers. Changes in trade patterns and industry structure have made it more difficult to

maintain reliable grid operations, manage transmission congestion, and plan for expansion of transmission facilities. Without further reform, traditional pricing and transmission practices will likely hinder the further development of competitive and efficient bulk power markets. Among these impediments are the "pancaking" of transmission access charges from one system to the next, the absence of clear and tradeable transmission rights, and the virtual absence of a secondary market in transmission service.

The second category of impediments consists of continuing opportunities for transmission owners to unduly discriminate in the operation of their transmission systems so as to favor their own or their affiliates' power marketing activities. As profit-maximizers, utilities that control monopoly transmission facilities and also have power marketing interests have incentives to deny equal quality transmission service to competitors.

While Order Nos. 888 and 889 addressed many forms of undue discrimination by requiring public utilities to separate transmission and power marketing functions, to take transmission service under the same tariff that governs service to others, and to avoid any preferential treatment of their power sales operations, many market participants continue to allege, and the Commission has in some cases confirmed, that transmission service problems related to discriminatory conduct persist. Allegations relate to standards of conduct violations and manipulations of the operation of transmission systems to frustrate power marketing competitors, for example by the imposition of transmission curtailments on congested lines. As might be expected in maturing commodity markets, there is a great deal of mistrust among market participants with respect to the fairness of the system. The pace and scope of restructuring and the future of certain companies therefore remain uncertain.

Proposed Rules On RTOs

To address these problems, the Commission recently proposed new rules on Regional Transmission Organizations (RTOs). RTOs can include ISOs as well as for-profit transmission companies (transcos) that both own and operate the regional transmission system. The purpose of the proposed rules is to facilitate and, if possible, accelerate the voluntary formation of RTOs. The Commission did not propose to require utilities to participate in an RTO by a date certain, but has sought public comment on whether it should do so.

The Commission proposed minimum characteristics and functions that an RTO must satisfy. The four required characteristics are that the RTO must: (1) be independent from

market participants; (2) serve a region of sufficient scope and configuration to internalize problems associated with unscheduled parallel path flows and allow the RTO to perform effectively and support open, efficient and transparent power markets; (3) have operational responsibility for all transmission facilities under its control; and (4) have exclusive authority for maintaining the short-term reliability of the grid it operates. If an RTO is properly structured in these ways, the Commission anticipates that it will be able to regulate with a lighter hand and leave substantial market decisions to the stakeholders.

In addition to these fundamental characteristics, a qualifying RTO must shoulder responsibility in seven specific areas. The RTO must: (1) administer its own transmission tariff and use a transmission pricing system that promotes efficient use and expansions of transmission and generation facilities; (2) ensure the development and operation of market mechanisms to manage transmission congestion; (3) develop and implement procedures to address parallel path flow issues both within its own region and with other regions; (4) serve as supplier of last resort for all ancillary services required by Order No. 888 and other Commission orders; (5) be the single OASIS-site administrator for all transmission facilities under its control and independently calculate the total transmission capacity and available transmission capacity; (6) monitor markets for transmission services, ancillary services and bulk power to identify design flaws and market power and propose appropriate remedial actions; and (7) be responsible for planning necessary transmission additions and upgrades in coordination with appropriate state authorities.

Under the proposed rules, all public utilities (except those already participating in an approved entity meeting the Commission's ISO principles) that own, operate, or control interstate transmission facilities must file with the Commission by October 15, 2000 a proposal for an RTO with the minimum characteristics and functions ultimately adopted by the Commission or, alternatively, a description of efforts to participate in an RTO, any existing obstacles to RTO participation, and any plans to work toward RTO participation. Each proposed RTO would have to be operational by December 15, 2001, if the proposal were adopted.

Public utilities already participating in an approved entity meeting Order No. 888's eleven principles (currently, the NEPOOL ISO, the California ISO, and the PJM ISO; the Midwest ISO and the New York ISO are approved but not yet operational) must make a filing no later than January 15, 2001, explaining the extent to which the entity in which it participates meets the minimum characteristics and functions for an RTO or proposing to modify the entity to become an RTO. Alternatively, the public utility must file an explanation of efforts, obstacles and plans with

respect to how it might conform to these characteristics and functions.

The Commission based the proposed rules on its authority under sections 205 and 206 of the FPA to ensure that rates, terms and conditions of transmission and sales for resale in interstate commerce by public utilities are just, reasonable and not unduly discriminatory or preferential. To this extent, the Commission's approach is similar to that which it employed in unbundling natural gas pipeline services under Order No. 636. The Commission also relied on its authority under section 202(a) of the FPA to promote and encourage regional districts for the voluntary interconnection and coordination of transmission facilities by public utilities and non-public utilities for the purpose of ensuring an abundant supply of electric energy with the greatest possible economy.

If properly constituted and truly independent, RTOs will be a major step in addressing remaining obstacles to competition and obtaining major efficiencies. First, RTOs will ensure that vertically-integrated transmission-owning utilities do not discriminate in favor of their own generation over another seller's generation. Second, RTOs can be structured to eliminate pancaking of transmission rates that raises the cost of moving power across multiple utility systems. Third, RTOs that have the proper tools can better manage transmission congestion, reduce the instances when power flows on transmission lines must be decreased to prevent overloads, and effectively solve short-term reliability problems. Fourth, RTOs can facilitate transmission planning across a multi-state region and, by operating the grid as efficiently as possible, may give confidence to state siting authorities that new transmission facilities are proposed only when truly needed. Significantly, the Commission also will be more inclined to defer to the planning, pricing, and control area decisions of an RTO if it fairly represents the interests of all stakeholders through open membership and fair governance procedures.

RTOs can provide these benefits while taking account of state and regional preferences and circumstances. RTOs do not require a one-size-fits-all approach and can be custom-designed. The Commission recognizes the need to be flexible in how these organizations are established, in order to accommodate local concerns. In particular, the development of RTOs will not interfere with state determinations on retail competition policy, transmission siting, local reliability matters, or regulation of retail sales of generation and local distribution. Also, the Commission did not propose to establish by rule fixed or specific regional boundaries under section 202(a) of the FPA. In addition, the Commission proposed to adopt an "open architecture" policy for RTOs, under which all RTO proposals must allow the RTO and its members the flexibility to improve their organizations in

the future in terms of structure, operations, market support, and geographic scope to meet market needs.

If its RTO proposal is adopted, the Commission plans to sponsor and support regional workshops and a collaborative process on RTO formation in the spring of 2000. Under this process, the Commission expects public and non-public utilities, in coordination with appropriate state officials and affected interest groups, to participate in working toward the voluntary development of specific RTOs. This process may be particularly important in ensuring that the development of RTOs reflects the unique needs and concerns of non-public utilities, in order to encourage their participation.

Comments on the Commission's RTO proposal are due August 16 and reply comments are due September 15. I have high hopes that the Commission will be able to adopt final rules on RTOs by the end of this year and begin its methodical implementation process. I would note that the Administration's proposed restructuring bill would allow the Commission to require non-public utilities to participate in RTOs.

Reliability

Let me turn next to the issue of reliability. In the past, regulators and industry participants relied upon voluntary industry organizations to establish reliability standards and practices. The regional reliability councils and the North American Electric Reliability Council (NERC) were composed primarily of the transmission-owning public utilities. These companies could and did rely upon voluntary cooperation and peer pressure for compliance. The approach worked well before the advent of competition and the Nation's electricity system became the envy of the world.

Competition in power markets increased concern that reliability rules could not be set or enforced in the same manner. Power markets today have extraordinary numbers of participants and numbers of transactions. New and expanding demands for service on the system change operating conditions and the increasing number of sellers make it harder to stay competitive in many instances. Faced with competitive pressure, some participants may be prompted to cut corners on reliability. Many observers, including NERC and the industry itself, have concluded that a mandatory system for reliability is needed to ensure that competition does not compromise the dependability of our Nation's electricity supply.

With the possibility of noncompliance with voluntary standards, and the current lack of clear authority for anyone to mandate compliance with reliability rules, industry participants

have initiated several proceedings at the Commission to address specific reliability issues. In several cases, the industry has asked the Commission to adopt stopgap measures and to decide the lawfulness of new reliability measures under FPA standards ordinarily used to review rates and commercial practices. However, a Commission finding that reliability measures meet these FPA standards does not ensure that the measures are themselves sufficient to maintain system reliability.

In 1998, for example, NERC initiated a proceeding seeking Commission review of NERC's new procedures for reducing power flows to prevent overloads on transmission lines, so-called transmission loading relief (TLR). The Commission concluded that these procedures affected the terms and conditions of transmission service provided by public utilities because they determined which commercial transactions would be curtailed to prevent overloads. The Commission required these procedures to be filed and told the affected utilities to take additional steps to ensure that the procedures were non-discriminatory. NERC, 85 FERC ¶ 61,353 (1998), order on reh'g, 87 FERC ¶ 61,161 (1999).

Similarly, earlier this year, the Commission accepted on an experimental basis the beginnings of an entire set of regional reliability standards, proffered by industry participants. Western Systems Coordinating Council, 87 FERC ¶ 61,060 (1999). This approach was proposed by the WSCC, the regional reliability council covering the western United States. WSCC's proposal is contractual. Transmission providers would voluntarily sign contracts with the WSCC, agreeing to abide by the WSCC's reliability rules, and require generators connected to their transmission facilities to abide as well. Violations of the standards would result in contractual penalties or other sanctions, subject to the Commission's review. The Commission's limited role is to ensure the reasonableness of rates, terms and conditions of transmission service and to offer to mediate any disputes about possible violations.

The broad support for both the WSCC filing and NERC's proposed reliability legislation demonstrates the industry's recognition that federal reliability legislation and oversight will be important to ensure the future integrity of electric service. Given the Commission's very limited authority in this area, sufficient Federal oversight will be needed to ensure that the standards maintain sufficient system reliability and are not unduly discriminatory or otherwise anticompetitive.

Power Marketing Administrations

Approximately one-third of the Nation's integrated transmission grid is beyond the reach of Order No. 888's open access requirements. For example, because the transmission-owning Federal utilities (such as the Bonneville Power Administration (BPA) and the Western Area Power Administration (WAPA)) and the Tennessee Valley Authority (TVA) are not public utilities, their transmission systems are not subject to the Commission's authority under FPA sections 205 and 206 over interstate transmission. Similarly, many municipal utilities and cooperatives control transmission but are not subject to regulation by FERC under FPA sections 205 and 206, and need not provide open access transmission service under our rules, even though their systems are integrated with, and are affected by, jurisdictional transmission operations. While many non-public utilities such as BPA, WAPA, and the Southwestern Power Administration have voluntarily offered transmission service under FERC-approved open access tariffs, many (including TVA) have not.

Efficient markets in network industries generally require that all transmission service providers within an economic market be subject to the same rules. This gap in the applicability of open access rules on the interstate grid raises serious questions about how competitive and efficient the interstate power marketplace can become. Gaps in open access to the grid can bar customers from reaching lower cost power sources. Other than enforcing the reciprocity requirement, there is little more that the Commission can legitimately do to address this problem under existing law.

Only a change in Federal law can fully close the difficult gap in the availability of open access transmission across regional markets. Such legislation need not intrude unnecessarily into the activities of these entities, including their retail service responsibilities. In fact, the experience of those non-public utilities that have voluntarily adopted open access tariffs demonstrates that open access service consistent with the Commission's requirements is as workable for non-public utilities as for public utilities, although appropriate legislation is needed to address related tax consequences in many cases. However, the full benefits of competition will naturally be delayed until open transmission access is universal.

Conclusion

Competition is growing in the electric industry, in response to the Energy Policy Act of 1992 and the Commission's efforts to remove barriers to competition and to let markets -- not regulators -- determine the price of wholesale electric power.

Mr. DOOLITTLE. Thank you.

Our next witness will be Mr. Thomas R. Casten, president and CEO of Trigen Energy Corporation. Mr. Casten.

STATEMENT OF THOMAS R. CASTEN, PRESIDENT AND CEO, TRIGEN ENERGY CORPORATION

Mr. CASTEN. Thank you, Mr. Chairman, and members of the Subcommittee, for inviting me. I want to compliment you for considering the issue of electric deregulation. I believe that there is no issue before this Congress of greater importance to America's economic strength and the quality of the U.S. in the global environment.

I think that modernizing electric regulation is an issue around which the diverse perspectives represented by the Resources Committee can come together. This is so because electric restructuring, if done right, will create jobs, lower energy costs, improve services, and significantly reduce air pollution. These public goods will accrue to all Americans.

I discuss the economic and environmental benefits of unleashing electric competition in a book that I authored last year called "Turning Off the Heat," copies of which have been distributed to all Committee members and your staffs.

I believe it is possible to discern the future and the positive direction of a competition-driven energy industry by observing other recently deregulated network industries. America's electric industry is woefully inefficient in the way it uses raw materials, precisely because of monopoly protection and outmoded regulations.

The U.S. industry wastes two-thirds of all the fuel that it burns, and it has shown zero improvement in that efficiency in 40 years. For the past four decades, the U.S. has been stuck at 33 percent efficiency. As a result, energy costs all Americans too much and there is far too much pollution. My company, by contrast, operates 45 power plants in 17 States that capture between 65 and 90 percent of the energy in the fuel that we burn and that emit half the pollution.

Competition will force all energy companies to extract more value from the fuel that they burn. This will lower the prices that consumers pay, and it will cut pollution. Competitive energy producers will offer better value, just as the deregulated telecommunications has offered cellular phones, Internet access, and now global satellite services.

For example, dispersed generation units are available and proven today that do not require more transmission lines and are 20 times cleaner than today's aged electric generating plants. Competition will cause the U.S. to drop its carbon dioxide emissions to well below the targets that were set in the Kyoto Protocol while reducing the cost of energy to all citizens. It's a win/win.

Electric restructuring is moving forward, but with different parochial rules in each State. Half the States represented by members of this Subcommittee and more than a third of the States represented by members of the full Committee have already chosen to restructure their electricity markets. Others will follow quickly.

Congress now has before it restructuring bills that appear to have many of the elements of successful national compromise, particularly the version offered by Representatives Largent and Markey. I believe it is in the national interest for Congress to move quickly to pass legislation that removes Federal barriers to open competition in energy markets.

The Subcommittee's jurisdiction over Federal power programs offers its members a particularly complex challenge. You are tasked with determining how to integrate capitalist market forces into the practices and customer bases of government-owned or government-affiliated enterprises, including PMA's and their customers.

I know how contentious these matters are. I have no interest in wading into the middle of the battles between public and private power. Where I pick sides is in the fight between government regulation and open markets. I think this Subcommittee should focus its inquiry not on the traditional positions of the contending electricity camps, but on the interest of individual energy consumers and on the broad national interest in a strong economy and a clean environment.

The Subcommittee should concentrate on delivering economic and societal benefits of modern energy technology to all consumers, including those traditionally served by Federal power programs. Whether considering a rural water district, Federal military installation, Indian reservation, or municipal power authority, the most important question to me is, how can that energy customer enjoy the best possible value and cause the least damage to the environment today and in the future?

Federal power programs were instituted earlier in this century largely to promote economic development in those parts of the country or among those sectors of society not well-served by private electricity business. At a minimum, it should be Federal policy to help those same regions or sectors of society obtain still more favorable energy services from the private sector, if the private sector makes them available. And I assure you, it will.

This will mean, among other things, assuring that Federal transmission policies encourage interconnection of distributed generation. If grants and subsidies are to remain part of the Federal power program, it would be appropriate to focus those grants where the market has failed to provide high-value energy services to customers.

Mr. Chairman, Congress has deregulated five network industries since 1970: rail freight, interstate trucking, interstate gas, long-distance telephones, and airlines. A 1997 study found that, 10 years after the regulations were eased in each of those industries, real prices dropped between 27 and 58 percent, service improved, and all classes of customers in each of those industries shared the benefit.

I am convinced that opening competition in the energy markets will benefit all energy consumers and all the communities in which they live. I am also convinced that the power of the market will inevitably reduce energy-related air pollution, including CO2, while saving money.

I urge this Subcommittee to lend its weight to the drive toward competition in electric markets.

Thank you for this opportunity to testify, and I will be happy to take your questions.

[The prepared statement of Mr. Casten follows:]

Testimony of Thomas R. Casten
President & CEO, Trigen Energy Corporation
Hearing before the
Subcommittee on Water and Power
Committee on Resources
U.S. House of Representatives

June 24, 1999

Mr. Chairman and members of the Subcommittee, thank you for inviting me to appear today.

To begin, I want to compliment you for taking time to consider the issue of electricity regulation. I believe that there is no issue before this Congress that is of greater importance to America's economic strength and the quality of the U.S. and global environment.

The House Resources Committee, and this Subcommittee have, over the years, been at the center of a number of great national debates on the best ways to use our country's natural resources, strengthen our communities and business, while safeguarding our natural heritage. You have in a very real sense been charged with determining how to build this country.

I think that modernizing electric regulation is an issue around which the diverse perspectives represented by members of the Resources Committee can come together. A member seeking to promote the power of open markets can find common ground with a member seeking to protect the environment. A Western member with rural constituents can pair with an Eastern member representing an urban district. There is even the prospect the public and private power interests may find something here to agree on.

I believe this is so because electricity restructuring- if done right- will create jobs, lower energy costs, improve services, and significantly reduce air pollution. These public goods will accrue to all Americans. I discussed the expected economic and environmental benefits of unleashing electric competition in a book I authored last year, *Turning Off The Heat*, copies of which have been distributed to all Committee members, and to your staffs. I have also attached to this testimony a copy of remarks I delivered to the Commerce Committee last month on electricity competition and environmental regulation.

Let me first establish a perspective. The electricity industry in the U.S. reminds me of the movie, "The Truman Show". Like Truman, electricity appears to have an independent life, but has, in fact, been completely scripted. In the movie, we were left to imagine what happened to Truman once he escaped the producer's script. Today, I will suggest what will happen when the traditional monopoly electric generation script is ended.

I believe it is possible to discern the positive direction of a competition-driven energy industry by observing other recently deregulated industries. America's electricity industry is woefully inefficient in the way it uses its raw materials precisely because of monopoly protection and outmoded regulations. The U.S. industry wastes two out of three units of fuel it burns, and has shown zero improvement in forty years – four decades. As a result, energy costs all Americans too much and there's far too much pollution. My company, by contrast, operates 42 power plants in 17 states that capture 65 to 90% of the energy in the fuel we burn, and that emit less than half of the pollution. Competition will force all energy companies to extract more value from the fuel they burn. This will lower prices consumers pay and cut pollution. Competitive energy producers will offer sophisticated energy generation, energy distribution, and energy management services to industrial, commercial, and retail customers -- just as a deregulated communications industry has offered cellular phones, internet access, and now global satellite services. Proven technology will be packaged in small mass-produced combined heat and power plants that will be sited near thermal users, where the presently wasted heat will be captured and used to save more fuel and more pollution. Dispersed generation units that do not require more transmission lines and are 20 times cleaner than today's aged plants are available and proven today. Their costs will fall due to emerging mass production and growing knowledge of installers and designers. The current electric transmission and distribution systems will prove to have been overbuilt as more local combined heat and power plants are built, and as energy producers compete in deploying conservation. Gas distribution pipes will enjoy increased use. Fossil fuel use and associated emissions will drop significantly. Competition will cause the US to drop its carbon dioxide emissions to well below the targets of the Kyoto protocol, while reducing the cost of energy to industry and all citizens.

Electricity restructuring is moving forward, but with different parochial rules in each state. Half of the states represented by members of this Subcommittee, and more than a third of the states represented by members of the full Committee, have already chosen to restructure their electricity markets. Others will follow quickly. The states are choosing different ways to make the transition from monopoly protected markets to open competition. Those states that have favored the interests of the incumbent monopolists will have to wait longer to see the broad societal benefits of competition. The more market-oriented states will see benefits sooner.

Congress now has before it restructuring bills that appear to have many of the elements of successful national compromise, particularly the version offered by Representatives Largent and Markey. I believe it is in the national interest for Congress to move quickly to pass legislation that removes federal barriers to open competition in energy markets.

This Subcommittee's jurisdiction over federal power programs offers its members a particularly complex challenge. You are tasked with determining how to integrate capitalist market forces into the practices and customer bases of government-owned or government-affiliated enterprises, including the PMAs and their customers.

I know full well how contentious these matters are. I have no interest in wading into the middle of the battles between public and private power. God forbid that anyone should suggest that I am picking sides between EEI and APPA. Their fight is not my business.

Where I pick sides is in the fight between government regulation and open markets. I think this Subcommittee should focus its inquiry not on the traditional positions of the contending electricity camps, but on the interest of individual energy consumers and on the broad national interest in a strong economy and clean environment.

To begin, I must say that I find it bizarre that some opponents of competition in energy markets suggest that some parts of the country or some customers have to be protected from competition. Mr. Chairman, which one of your constituents needs "protection" from lower prices or better services? Which member of this Subcommittee would argue that his or her constituency would be better off with only one long distance phone service? Only one fuel supplier? Only one grocery store?

Granted, the issue of regional price differences is more complex than I'm making it, but I do not see how I, or a competing entrepreneur in an open market could take customers away from incumbent providers unless we offer lower prices or better services. In my view, the "protection" argument serves the interest of the incumbent electricity providers, but does not serve the interests of energy customers.

This Subcommittee should concentrate on delivering the economic and societal benefits of modern energy technology to all consumers, including those traditionally served by the federal power programs. Whether considering a rural water district, federal military installation, Indian reservation, direct service industry, or municipal power authority, the most important question is how that energy customer can enjoy the best possible value and can cause the least damage to the environment from energy service today and in the future. Society is not hurt if a paper mill in the shadow of a federal hydro plant reduces energy costs by building its own combined heat and power plant and is able to cut its purchases of federal hydropower. Society is hurt when state and federal rules prevent this efficiency, which is true today.

Federal power programs were instituted earlier in this century largely to promote economic development in those parts of the country, or among those sectors of

society, not well served by private electricity business. At a minimum, it should be federal policy today to help those same regions or sectors of society obtain still more favorable energy services from the private sector, if the private sector makes them available – as I am convinced it will.

This will mean, among other things, assuring that federal transmission policies encourage interconnection of distributed generation. To borrow an example I'm familiar with, if a tribally owned potato processing plant on the edge of the Navajo Reservation wants to install a highly efficient heat and power plant, it should be affirmative federal policy to help ensure the facility can interconnect its plant with the local grid.

It grants and subsidies are to remain part of the federal power program, it would be appropriate to focus them where the market has failed to provide high value energy services to customers. For example, it might well be sound rural development policy to help remote communities install efficient, low cost, low polluting combined heat and power plants where doing so would cut a community's energy costs and allow tax dollars to go toward provision of other social services, such as schools or public safety.

Mr. Chairman, congress deregulated five industries since 1970 – rail freight, interstate trucking, interstate gas, long distance telephones and airlines. A 1997 study found that ten years after regulations were eased, real prices dropped by 27% to 58%, service improved and all classes of consumers shared the benefits.[1] I am convinced that opening competition in energy markets will benefit all energy consumers and the communities in which they live. I am also convinced that the power of the market will inevitably reduce energy-related air pollution, including CO_2, while saving money. I urge the Subcommittee to lend its weight to the drive toward competition in electricity markets and to ensure that the federal power programs encourage prompt deployment of the most modern, clean and competitive energy generation and energy services.

Thank you for this opportunity to testify. I will be happy to respond to questions.

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[1] Robert Crandall and Jerry Ellig, *Economic Deregulation and Customer Choice: Lessons for the Electric Industry* (Fairfax, Va.: Center for Market Processes, 1997).

TRIGEN

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THOMAS R. CASTEN

From 1986 to the present, Mr. Casten has served as President and CEO of Trigen Energy Corporation, a NYSE-listed company whose mission is to produce electricity, heat and power with one-half the fossil fuel and one-half the pollution of conventional generation. Trigen, the leading thermal sciences company in North America serves more than 1,500 customers with energy produced at 38 plants in 27 locations in 17 states.

From 1980 to 1986, he was CEO of Trigen's predecessor company, Cogeneration Development Corp. Prior to that, Mr. Casten spent eleven years with Cummins Engine Company where he established a business unit to combine heat and power generation using diesel engine technology.

Mr. Casten served on the Board of Directors and as President of the International District Energy Association. In 1989 he received the Norman R. Taylor Award for distinguished achievement and contributions to the industry. In 1998 he was again recognized by the Association with a special Award for his commitment and visionary leadership to the district energy industry.

He has authored numerous reports and articles on cogeneration and district heating, and recently published a book, "*Turning Off The Heat*" (Prometheus Press, October 1998) that analyzes policy issues concerning energy costs, pollution control, and climate change mitigation.

He has given testimony before State Public Service Commissions, State and Federal Legislative Committees and Agencies on topics including restructuring of the electric industry, environmental and tax policy.

Tom was the founding Chairman of the Westchester Philharmonic Orchestra, now in its 17th season. In 1997 he was recognized as the Distinguished Eagle Scout in Westchester Putnam County, NY and is currently the Council President. From 1964 to 1968, he was an engineer officer in the U.S. Marine Corps., and spent one year in Vietnam. He is a Magna Cum Laude graduate of the University of Colorado, with a B.S. in Economics, and was valedictorian of the 1969 graduating class of Columbia University's M.B.A. program.

Mr. DOOLITTLE. Thank you.

Our next witness will be Christopher Mele, legislative director for energy with the National Association of Regulatory Utility Commissioners.

Mr. Mele.

STATEMENT OF CHRIS MELE, LEGISLATIVE DIRECTOR FOR ENERGY, NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

Mr. MELE. Good afternoon, Mr. Chairman, and members of the Committee. As you said, my name is Chris Mele, and I am with NARUC. NARUC is an organization comprised of State officials charged with the duty of regulating the retail rates and services of electric, gas, water, and telephone utilities operating within their respective jurisdictions.

Before I go forward, I would like to just point out that my background in this issue goes back quite a few years. I was up to my eyeballs in it in the State of Pennsylvania when we re-regulated or de-regulated or restructured our electric industry in that State. And that time I was representing the rural electric cooperative and the municipals. So for the last four or five years of my career have been wading through this hip-deep most times. In fact, my wife would tell you that I probably know this issue better than her in the last five years.

I greatly appreciate the opportunity to appear before your Subcommittee on behalf of NARUC. States are, in fact, leading the charge to restructure electric markets. And each case, the States are putting in place elements that are essential to ensure vibrant, safe, and sustainable markets.

Twenty-two States so far—and the number keeps growing rather rapidly—have adopted retail electric restructuring programs to enable customers to choose among energy suppliers while ensuring the safety, reliability, and quality of electric services.

I guess the key here is do no harm, and I think that is the way the States are operating. And I think that when the Federal Government is ready to go, that is the way they should operate.

Some will argue that the level of activity is insufficient, that the States should have adopted retail. Yet the States that have adopted retail open access electricity programs are home to more than 50 percent of the Nation's population. All this activity has taken place within the last four years alone. And I believe the States will continue to pursue restructuring programs that are in the public interest and in the States' interest.

State restructuring initiatives contain many common elements, customer choice, functional unbundling, pricing reform, stranded cost recovery, protection of public benefits, sensitivity to the exercise of market power, and mechanisms to support emerging regional markets.

It should come as no surprise that the timing and implementation of such initiatives differ from State to State in ways that reflect local customer needs and other market realities, including such factors as climate, demographics, indigenous resources, environment impacts, past choices of technology, current resource pref-

erences, system capacity, geography, and form of utility ownership—just to name a few.

The State's intention, and NARUC's hope, is that we can learn from the unfolding State initiatives about what does and doesn't work before risking harm to the broader consuming public by requiring States to restructure local markets by a date certain or a uniform set of Federal standards to take into account the unique local circumstances of each State.

We believe it prudent for Congress not to risk disrupting these policies through prescriptive national models, but rather consider legislation that facilitates State restructuring efforts. There are things Congress can do to help the States by removing uncertainty and reducing the prospect of torturous litigation.

NARUC established a broad set of principles that I am going to summarize here on how to move forward both from the State level and from the Federal level.

One is enabling customers to choose among electricity suppliers through State determinations of appropriate restructuring policies.

Two, maintaining or improving the reliability of the electric system.

Three, ensuring customer access to reasonably priced services, including adequate protections for low-income customers.

Four, protecting consumers from anti-competitive behavior, undue discrimination, poor service, and unfair billing and disconnection policies.

Five, ensuring the maintenance or improvement of public benefits in environmental programs through existing or new mechanisms.

Six, State determinations concerning retail stranded cost recovery.

And, lastly, enhanced State authorities necessary to create regional mechanisms to address transmission reliability, market power, and other regional concerns.

As I said, there are areas that the Federal Government ought to be involved in, affirming States' authority to order and implement retail access or customer-choice programs free from the threat of pre-emption under the Commerce Clause or the Federal Power Act, affirming States' authority to impose wires charges to support the recovery of stranded costs and other State-sponsored programs.

Let me jump to my conclusions and just say a few things we think that the Federal Government should leave to the States, and I mentioned them briefly before. But one is grandfathering. Currently, none of the proposals out there have an in-depth grandfathering provision. If you don't grandfather carefully and fully, you are going to disrupt what 22 other States have already done. And in the best case, you will create confusion; in the worst case, you may destroy the markets that are forming.

With that, I would like to end my comments and ask that my written testimony be put into the record. And I thank you for you attention.

[The prepared statement of Mr. Mele follows:]

SUMMARY OF REMARKS BY CHRISTOPHER MELE, NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

- States should be left to decide whether, when and how local markets should be opened to greater competition that enables customers to choose among electricity suppliers, while maintaining system reliability, protecting consumers from anti-competitive behavior or poor service, and ensuring the continuation of important public benefit programs.
- Federal legislation could greatly enhance restructuring initiatives by:
  - —Affirming State authority to order and implement retail access/customer choice programs;
  - —Affirming State authority to impose charges to support stranded costs and benefits policies;
  - —Affirming State authority to regulate customer bypass of local distribution networks;
  - —Reaffirming State jurisdiction over the rates, terms and conditions of retail electric services; and
  - —Authorizing voluntary formation of regional regulatory bodies to enable States to address regional transmission and system operation concerns.
  - —Providing for "grandfather" of existing State restructuring proposals.
- In conjunction with focused legislation, NARUC would also favor reforming PUHCA and repealing prospectively the mandatory purchase requirements contained in PURPA conditioned upon the development of competitive retail electric markets.
- Unlike any of the other regulated industries, conditions in the electric industry vary widely across the country. While the development of retail customer choice is critical, preferably it should be implemented in a manner that respects these differences. In our view, that can only happen if decision-makers closest to these conditions—State commissions and legislatures—enjoy the flexibility to adapt pro-competitive policies to the needs of local retail consumers.
- If Congress reaches a consensus that it needs to accelerate and broaden the transition to greater retail competition, it should do so through legislation that preserves broad State authority to implement policies flexibly in response to the conditions in local retail markets.

STATEMENT OF CHRISTOPHER MELE, LEGISLATIVE DIRECTOR FOR ENERGY, NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

Mr. Chairman and Members of the Subcommittee:

Good morning. My name is Christopher Mele. I am the Legislative Director for Energy for the National Association of Regulatory Utility Commissioners, commonly known as NARUC. I respectfully request that NARUC's written statement be included in today's hearing record.

NARUC is a quasi-governmental nonprofit organization founded in 1889. Within its membership are the governmental bodies of the fifty States engaged in the economic and safety regulation of carriers and utilities. The mission of the NARUC is to serve the public interest by seeking to improve the quality and effectiveness of public regulation in America. More specifically, NARUC is comprised of those State officials charged with the duty of regulating the retail rates and services of electric, gas, water and telephone utilities operating within their respective jurisdictions. We have the obligation under State law to assure the establishment and maintenance of such energy utility services as may be required by the public convenience and necessity, and to ensure that such services are provided at rates and conditions which are just, reasonable and nondiscriminatory for all consumers.

I greatly appreciate the opportunity to appear on behalf of NARUC before the Subcommittee on Water and Power of the U.S. House of Representatives Committee on Resources. I would also like to commend the Chairman for exploring State perspectives on the complex issues involved in fostering greater competition in the electric industry.

Before passage of the Energy Policy Act of 1992 (EPAct), our system of regulated electric monopoly service providers was a model of stability as regulators worked to ensure that utilities provided essential services to retail consumers at reasonable rate levels. Before and since EPAct, the U.S. has enjoyed the most economical electricity rates among those Western industrialized nations not heavily dependent on hydropower sources of energy. Times and fashions change, of course, and now the electric utility industry is one of the last of the utility sectors to undergo a transformation from monopoly franchise to market participant. States are leading the

charge to restructure retail electric markets. In each case, the States are putting in place elements that are essential to ensure vibrant, safe and sustainable markets.

Twenty-two States have adopted retail electric restructuring programs to enable customers to choose among energy suppliers while ensuring the safety, reliability and quality of electric services. Still others are working through their State commissions and/or legislatures to open access to retail electricity markets.

While some argue that this level of activity is insufficient, the States that have adopted retail open-access electricity programs are home to more than one-half of the nation's population. All this activity has taken place within the last four years alone, and I believe States will continue to pursue restructuring programs that are in the public interest and the States' interest.

The States pursuing retail open-access are acting with great care and precision to ensure the continued reliability of electric services and universal access to retail services and public benefits previously provided by a vertically integrated industry. Careful review of these activities discloses that State restructuring initiatives contain many common elements: customer choice, functional unbundling, pricing reform, stranded cost recovery, protection of public benefits, sensitivity to the exercise of market power, and mechanisms to support emerging regional markets. It should also come as no surprise that the timing and implementation of such initiatives differ from State to State in ways that reflect local customer needs and other market realities including such factors as climate, demographics, indigenous resources, environmental impacts, past choices of technology, current resource preferences, system capacity, geography, and form of utility ownership—to name a few.

The States' intentions, and NARUC's hope, is that we all can learn from the unfolding State initiatives about what does and doesn't work before risking harm to the broader consuming public by requiring States to restructure local markets by a date certain through a uniform set of Federal standards that fail to take unique local circumstances into account. We believe it prudent for Congress to not risk disrupting these policies through prescriptive national models, but rather consider legislation that facilitates State restructuring efforts. There are things Congress can do to help the States by removing uncertainty and reducing the prospect of tortuous litigation.

In July 1996, NARUC adopted "Principles to Guide the Restructuring of the Electric Industry." The Principles are intended to support States' restructuring initiatives to provide customer choice while ensuring the continued provision of adequate, safe, reliable and efficient energy services at fair and reasonable prices at the lowest long-term cost to society. In light of the local impact that restructured markets will have, our Principles reiterate our view that State commissions and legislatures should decide whether, when and how local markets should be opened to greater competition.

In brief, the NARUC Principles support:

- Enabling customers to choose among electricity suppliers **through State determinations** of appropriate restructuring policies;
- Maintaining or improving the reliability of the electricity system;
- Ensuring customer access to reasonably priced services, including adequate protections for low-income customers;
- Protecting consumers from anti-competitive behavior, undue discrimination, poor service and unfair billing and disconnection policies;
- Ensuring the maintenance or improvement of public benefit and environmental programs through existing or new mechanisms;
- State determinations concerning retail stranded cost recovery; and
- Enhanced State authorities necessary to create regional mechanisms to address transmission, reliability, market power and other regional concerns.

Based on these basic goals, NARUC believes that in tile following areas, Federal legislation could enhance restructuring initiatives by:

- Affirming State authority to order and implement retail access/customer choice programs free from the threat of preemption under the Commerce Clause or the Federal Power Act;
- Affirming States authority to impose wires charges to support the recovery of stranded costs, State-sponsored energy efficiency and/or environmental programs, and universal service programs;
- Affirming States' authority to regulate retail power delivery services regardless of the facilities used, thereby eliminating the threat of customers bypassing the local distribution network;
- Reaffirming States' exclusive jurisdiction over the rates, terms and conditions of retail electric services, including retail transmission services;

- Authorizing the voluntary formation by States of regional regulatory bodies to enable States to address regional transmission and system operation concerns.

With these issues resolved legislatively, while continuing to accord States the discretion to determine whether, when and how to open retail electricity markets to competition, States would be confident of their legal authority to move forward on restructuring efforts as local conditions dictate.

In conjunction with this type of focused legislation, NARUC would also favor reforming the Public Utility Holding Company Act of 1935 (PUHCA), while continuing to ensure consumer protections against abusive multistate utility holding company practices, and repealing prospectively the mandatory purchase requirements contained in the Public Utility Regulatory Policies Act of 1978 (PURPA). NARUC conditions its support for PUHCA reform and PURPA repeal upon the development of competitive retail electric markets and as part of broader restructuring legislation, not as stand alone initiatives.

Another issue in this debate, where Federal legislation is necessary, is reliability. Any legislation should explicitly confirm the public interest in transmission grid reliability, the need for mandatory compliance with reliability standards, and a provision of explicit authority for the FERC and the states in cooperation to enforce the necessary standards. I emphasize the cooperative nature of this task. Congress could accomplish this by authorizing voluntary formation by States of regional bodies to oversee transmission issues, Independent System Operators, system planning issues and reliability.

One last component that would need to be addressed in Federal legislation is the inclusion of language to "grandfather" State restructuring plans that were in place prior to enactment of any Federal legislation. In the States that have moved to provide retail open access, there have been delicate compromises reached to produce consensus. States have crafted these proposals and plans to meet their unique circumstances. In addition, Federal preemption could have disastrous effects on those States which already have retail consumers participating in burgeoning open access markets. In essence, without a grandfather provision Congress would be changing the rules for an immature market, causing confusion at best and the collapse of an undeveloped market at worse.

While I have just discussed issues which NARUC believes the Federal Government ought to include in legislation should Congress proceed with electric restructuring, there are areas where NARUC believes Congress ought not take action. NARUC does not support proposals which require States to implement customer choice by a date certain. For the reasons previously stated, a Federal mandate is unnecessary (given the pace at whichState commissions and legislatures are now moving) and unwise (given the need for each State to address restructuring issues at a pace that makes sense in light of its individual economic, demographic, climatic and yes, political circumstances). We appreciate the desire of some to get on with the transition as quickly as possible, but if implementation of the pioneering State programs proves that the benefits of customer choice are as compelling as the proponents of a Federal mandate believe, States will embrace pro-competitive policies, as many currently are, at a pace that makes sense for their individual needs.

States should also retain jurisdiction to address the recovery of costs for power sales and delivery service provided retail customers regardless of the facilities used. This means that technical definitions as to the character of facilities as transmission or distribution investments should not impinge upon the ability of State commissions to exercise authority over every retail transaction. This issue is of critical importance to ensure that States have the option of imposing non-bypassable charges to fund stranded cost and benefit programs.

Conclusion

The States are now performing their historic role as laboratories to test how the words "greater competition for retail consumers" can be turned into real-world services that customers will buy. The State commissions and legislatures must be allowed to continue to experiment with retail access, including customer choice initiatives. As the consequences of competitively-based wholesale markets become clearer, States are putting in place complementary retail policies which are adapted to regional market conditions. State commissions are developing and implementing compatible retail policies which preserve reliability, prevent the stranding of "public goods," ensure consistency with environmental values, minimize cost shifting, provide for stranded cost recovery, and most importantly, improve economic efficiency. Over time, States will work together, as some are now doing, to devise and implement regional institutions to adapt their regulatory responsibilities to the reality of regional power markets.

If Congress chooses to act in this area, any Federal legislation should preserve broad State authority to implement these policies flexibly in response to the conditions in local retail markets. The development of retail customer choice should be implemented in a manner that respects these differences. In our view, that can only happen if decisionmakers closest to these conditions—State commissions and legislatures—enjoy the flexibility to adapt pro-competitive policies to the needs of local retail consumers. In the weeks and months ahead, my colleagues and I look forward to continue working with Congress and all interested parties to develop workable policies that support an efficient and environmentally sound electric services industry that meets the needs of all retail consumers.

Mr. DOOLITTLE. Thank you. And let me assure you that all the full set of testimony will be included in the record along with your oral statements here.

Our next witness will be Mr. Wayne Crews, director of competition and regulation policy with the Competitive Enterprise Institute.

Mr. Crews.

STATEMENT OF WAYNE CREWS, DIRECTOR OF COMPETITION AND REGULATION POLICY, COMPETITIVE ENTERPRISE INSTITUTE

Mr. CREWS. Good afternoon, Mr. Chairman, and members of the Subcommittee. My name is Wayne Crews. I direct competition and regulation policy at the Competitive Enterprise Institute. I appreciate the opportunity to appear today. CEI is non-partisan, nonprofit organization that works to educate opinion leaders on market-based alternatives to political programs and regulations.

I am here today to provide an alternative—a little bit of an alternative model of achieving the free market, free electricity markets, asking the question, does the pursuit of Federal retain open access have it wired or tangled? When policymakers embark upon restructuring, as opposed to deregulating a heavily regulated industry, they risk creating more regulation than existed before. This is the dilemma raised by today's calls for mandatory retail open access in electricity, which is intended to ensure that every commercial, residential, and industrial customer shall have the choice of any electricity provider while the local utility will be required to distribute the new provider's electricity.

Nearly every network industry now, from electricity and telecommunications to railroads and cable TV—and even, potentially, the computer operating systems—suffers from the threat of open access disease, a regulatory infection caused by dual exposure to regulators who assume themselves indispensable to competitive markets and economists who cling to the notion that capitalism generates natural monopolies apart from a government-granted franchise.

The irredeemable problem with open access and achieving at the retail level is its coercive character. The desire of a transmission or distribution owner to control its wire isn't compatible with the desire of others to hitch an uninvited ride, a problem for which there is no stable regulatory solution.

Thus, despite years of effort, electricity reform at the Federal level stands a good chance of dying again in Congress this year. Every fundamental question—State versus Federal jurisdiction, the role of independent system operators, reciprocity, the role of rural power, stranded costs—all remain hotly debated.

More substantial and robust electricity competition could emerge if more precious years weren't wasted trying to mandate it. Competition doesn't require granting everybody with a kite and a key the right to dump their electricity into the grid for somebody else to manage.

Instead, the artificial barriers that prohibit voluntary competition are the State-granted exclusive local delivery franchises that protect incumbent utilities. These should be removed. Open access leaves those delivery franchises intact, and as the market grows and the deregulated generation aspect of the industry moves forward, it is going to contort around this still-regulated transmission structure while other network industries in the country are moving ahead, even in some cases creating redundancy in certain areas.

If those franchises were ended as opposed to pursuing mandatory access, that would grant to entrepreneurs and adventurous electric utilities the clout voluntary access deals and develop infrastructure by forming consortia, sharing rights of way with network industry cousins, like telecommunications, Internet, and railroad firms.

For instance, an independent power producer could team up with a baby Bell and real estate developers on the fringes of the grid to share costs of providing electricity and communications services to residential and business customers. That is one type of example.

Some entrepreneurs could emulate companies like Qwest and Level 3; each is financing fiber networks thousands of miles long that feature buried redundant empty plastic conduits for rapid installation of next-generation fiber. And, on top of this, at this point in history, barring a breakthrough in wireless data transmission, given the Internet revolution, a multibillion-dollar effort to rewire the last mile to household consumers may emerge. So sharing costs with power entrepreneurs could prove essential, but right now they are prohibited from attempting that, given the exclusive franchise.

Under genuine competition, incumbent utilities threatened with such constant entry would be likely to offer open access voluntarily. Thus, the aims of the forced open access advocates would emerge, but in a market-driven manner. Other competitive pressures include lightweight micro-turbines capable of serving a 7-Eleven or large homes, which some researchers believe could rival the change in computing from mainframe to the desktop in significance.

Other potential avenues for competition include relatively new computer-controlled sideways drilling technology that allows oil and gas companies to flexibly snake under streets without disturbing the above ground. There are new technological controls over power flows that make it not quite so true anymore that we can't control where the electrons go. Other examples are in the handouts.

But ending exclusive franchise is necessary to ensure that firms other than existing utility monopolies can exploit all these options. Otherwise, a homeowners' association or a business park employing micro-turbines could find itself in violation of the local franchise.

Of course, if we removed the franchises and competition doesn't start to emerge in some places, then the States may properly consider forced access on a rifle-shot basis. That is the way it should be done.

Forced-access advocates forget that innovation in transmission and distribution is as important as any other kind of innovation. Forced access could compromise entrepreneurial incentives to embrace innovation and enhance reliability because their advance remains too dependent on what regulators do.

Consultant Martin Mills points out that today's noisy and dirty grid is leading developers to design buildings with separate power systems, that second wires are inevitable in a lot of cases, and that the grid ultimately will need to emulate the architecture of the Internet to obtain the necessary liability levels.

The ability to make and execute such market strategies depends crucially on owners and operators who directly profit or lose from their decisions. Altering our deregulatory approach in the 106th Congress would set in motion a restructuring that is as fully efficient and entrepreneurial as possible. Years would possibly be saved on the need to revisit the industry to have its distortions legislatively ironed out, as may occur in telecommunications.

There is too often a tendency among policymakers to embrace technocratic solutions. Under genuine competition, regulators disappear. In contrast, mandatory access risks armor-plating regulators at a crucial moment in business history. Inefficiencies created by actual government monopolization of the grid will outweigh any potential, but unlikely, monopolistic abuses by the private owners of transmission and distribution, if they are subject to threats.

The answers to questions regarding the shape of tomorrow's power markets are not all locked into today's initial conditions. Information will be created by entrepreneurs as we go along, and we should give them a chance.

I thank the Subcommittee for its attention.

[The prepared statement of Mr. Crews follows:]

Testimony of:

Clyde Wayne Crews Jr.
Director of Competition and Regulation Policy
Competitive Enterprise Institute

Rethinking Electricity Deregulation: Does Open Access Have It Wired -- Or Tangled?

Before the:

SUBCOMMITTEE ON WATER AND POWER RESOURCES
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Rethinking Electricity Deregulation: Does Open Access Have It Wired – Or Tangled?

Clyde Wayne Crews Jr.

To succeed with deregulation, the first step cannot be average – we must hurdle a heap of bad ideas, especially the natural monopoly myth.

Douglas Houston[1]

Good Morning, Mr. Chairman, my name is Wayne Crews and I am the director of competition and regulation policy at the Competitive Enterprise Institute. I thank the subcommittee for the opportunity to appear today. It is a great pleasure for me and for my organization. CEI is a Washington-based public interest group established in 1984 with an annual budget of about $3 million and a current staff of 35. CEI works to educate and inform policymakers, journalists and other opinion leaders on market-based alternatives to political programs and regulations. CEI also engages in public interest litigation to protect property rights and economic liberty.

When policymakers embark upon *restructuring* a heavily regulated industry, as opposed to deregulating it, they risk creating more regulation than existed before. This is the dilemma of popular proposals to reform the electric industry today, such as the administration bill and the Largent bill. Both call for regulated open access to the power grid, which is intended to mean every commercial, residential or industrial customer shall have a choice of any electricity provider, while the local utility would be required to distribute the new provider's electricity.

Restructuring anticipates making a competitive business only out of electricity *generation* -- the spinning of magnets within copper wire coils to cause a flow of electrons and current. The deregulation of *transmission* and *distribution* -- the network of towers and wires and poles that make up what amounts to an interstate electric highway system -- has not been brought into play. But to protect the market and consumers, it imperative that all sectors of the industry be deregulated – not restructured -- together.

Despite years of effort to secure federal retail access, every fundamental question – state vs. federal jurisdiction, the role of independent system operators, reciprocity, the role of rural power, stranded costs – remains as hotly debated as ever. Thus reform will likely die again in Congress. The irredeemable problem with mandatory access is its coercive character: the desire of a transmission or distribution owner to control its wires is not compatible with the desire of others to hitch an uninvited ride -- a problem for which there is no stable regulatory solution. Few will invest in grid technologies and innovations and reliability-enhancing measures if required to share the spoils with competitors. Nonetheless, regulatory authorities at the Federal Energy Regulatory Commission intend to force involuntary retail trade across what ought to be

entrepreneur-controlled networks. Open access armor-plates regulators by giving them even more responsibility.

There is a better way. Reform requires that the regulated component *shrink*; More substantial and robust electricity competition could emerge if more precious years weren't wasted trying to *mandate* it. Competition does not require granting everybody with a kite and a key uninvited access to resistant incumbents' wires. Instead, the artificial barriers that prohibit voluntary competition -- the exclusive local service territories that incumbents enjoy -- should be removed. These artificial barriers are typically embodied in the "certificates of convenience and necessity" state regulators have granted a few lucky producers. And even if open access were implemented, these exclusive delivery rights would remain intact, guaranteeing that the power industry deforms as the free generation elements ooze around the regulated components, all in an era in which other network industries are building overlapping, redundant networks.

While a federal bill would likely take several years to fully implement open access, abolishing franchises could inspire competitors to cut *voluntary* access deals right away, or to erect or bury their own competing wires and serve captive customers if they can figure out a way to do it. For example, an independent power producer might team up with competition-minded utilities or with a Baby Bell and real estate developers to provide electricity and communications services to residential and business customers -- whether on the outskirts of the grid, or defiantly in the middle of an incumbent's territory. The thinking of the industry must change to match that of other, more entrepreneurially minded network industries.

In all likelihood, the persistent threat of entry from every direction will assure that most wires will be operated on an open access basis when franchises are ended – the very goal that open access advocates seek. Utilities that balk at relieving overcharged customers will themselves face retaliation when they seek to expand. If nothing else, interlopers could help share costs in exchange for access. Some wires, though, will be operated on an exclusive basis, and still others something in between. No regulator or strident academic can know the proper mix, which will change every day in a dynamic marketplace. Since grid developers would retain control over their wires under genuine deregulation, incentives to both expand and protect reliability are maximized. Thus all the aims of the forced open access advocates can be realized, but in a market-driven manner.

Trends toward smaller-scale generation -- producing power near or at the customer's premises and transporting it over shorter distances at lower voltage -- suggest that the development of "sub-grids" or even self-contained loops could be in the offing if franchises were abolished. In the extreme, mass-produced, desk-sized units could bypass the grid altogether.

There is too often a tendency among policymakers to believe that a technocratic solution, in this case, managed access, is superior to ordinary market processes. But inefficiencies created by *actual* government monopolization of the grid will outweigh any *potential* but unlikely monopolistic abuses by the private owners of transmission and distribution. Where bottlenecks

remain, reformers could consider "rifle shot" open access, but should reject the permanent universal access system proposed today.

The Artificial Origin of Utility Monopoly Power

For decades, electric generation has been argued to be a natural monopoly, a condition characterized by declining average costs, such that a single large firm can produce and sell output cheaper than two or more smaller ones. Some fear such markets will gravitate toward monopoly control. While the coercive natural monopolies of economic theory sometimes appear elusive, *political* monopolies, grounded in exclusive franchises that forbid competitors, clearly exist.

Today's monopoly electricity market is the result of conscious political design, not natural monopoly characteristics. A monopoly cannot sustain itself – and hardly is "natural" -- if those who prefer not to partake of its services are free to leave. Electric utilities never achieved monopoly status before the advent of the state public utility commissions.

If regulation were devised to help consumers, prices should have fallen and the quantity of power supplied should have increased after the shift to regulation. Instead, customers paid more under rate of return regulation than they had under competition. Economist Greg Jarrell found that the states in which utilities were first regulated were those charging the lowest rather than the highest prices. Furthermore, the early-regulated states underwent price increases relative to price changes in the late-regulated states.[2] Also, output of electricity fell following regulation, while utility profitability and return on assets increased. Seemingly, utility regulation did not fight monopoly or protect consumers, but created artificial monopolies that sacrificed the interests of smaller, competitive producers and their customers for the sake of politically powerful but less efficient electricity producers.

Real deregulation will target these artificial impediments to market entry. There is no justification for artificially forcing competition when the absence of competition was artificially created in the first place. Deregulation is needed precisely because states and public utility commissions remain in the business of restraining voluntary trade through exclusive franchises. The "certificates of convenience and necessity" required to sell electricity in Colorado are typical of artificial market barriers:

> No public utility shall begin the construction of a new facility, plant, or system or of any extension of its facility, plant or system without first having obtained from the [public utilities] commission a certificate that the present or future public convenience and necessity require of will require such construction.[3]

Congress's greatest contribution at this stage would be to remove these barriers to competition. *It is today's absence of competition that requires a concerted governmental effort to sustain.* Government should not impose involuntary trade over utility wires, which is the

essence of forced open access, but should allow voluntary trade.

Some Ways Free Electricity Markets Can Thrive

Whether unprotected utilities see the light and open their lines, or whether parallel lines sometimes develop, whether the electrical system ultimately evolves into one consisting of small generators on minor distribution loops, or tiny household generators and no grid at all, no one knows. But consumers will be best served by a system that does not close down these electric avenues in favor of open access.

Potential Parallel Transmission and Distribution

About 600,000 miles of high-voltage transmission lines and about 2.5 million miles of distribution wires crisscross America.[4] Whether that is or is not enough is a question that only the marketplace can answer. Despite the natural monopoly scripture, duplication, overlap and excess capacity are the norm elsewhere. Network industries other than utilities are spending billions rapidly building redundant networks. Optical fiber is being deployed at the rate of several thousand miles per day. Ending monopoly franchises would allow the possibility of competitors building infrastructure alone or in alliance with other network industries such as telecommunications firms and railroads to serve industrial parks and factories, commercial districts, strip malls, hospitals, universities and even residential areas. Potential allies include:

- Competition-minded utilities
- Real estate developers
- Long-distance and local phone companies
- cable companies
- water utilities
- gas companies
- railroads
- private landowners
- Interstate highways and Amtrak corridors

Clearly, two or more sets of wires up and down every street is not to be expected. But the threat is needed, because prices are best regulated by the possibility of others competing with the incumbent. Incumbents balking at those seeking access will likely face retaliation are get shut out when they try to expand. Newcomers can be creative in finding footholds in the market. For example, if customers don't want ugly duplicate wires in their yard, newcomers can team up with a cable company and offer to bury them while installing high-speed fiber.

Some regulators appreciate the possibilities for competition in delivery. In Victoria, Australia, "The potential for competition in network facilities is already evident ... where rival electricity distributors are planning to drive new lines into each other' territories."[5] California

hour it would take a cable modem. If undertaken, the rewiring job will cost tens of billions. Therefore enlisting and sharing costs with aggressive power producers now cut off from customers by exclusive franchises could be critical.

Bandwidth for telecommunications services lags the advances in computing power that rely on the telecommunications infrastructure to digitally link Americans and the world. Indeed, the computer industry is furious at a telecommunications industry still seemingly incapable of keeping up with the amount of brute computing power now streaming out of Silicon Valley and other high-tech regions. As Silicon Valley investor Roger McNamee put it, "Our industry is driven by Moore's law, [t]heirs is driven by Moron's Law – the morons who run and regulate America's telcos."[13] Ethernet inventor and 3Com founder says of the telcos, "They're stupid jerks, and they must be destroyed…I want to expose their laziness, their stupidity, and their fraudulent price structure."[14] Some still-regulated telcos are reluctant to cannibalize their existing technology in the way the computer industry routinely does. Thus, distribution line installation by hungry electricity entrepreneurs would make good piggyback partners with those intent on wiring America for a torrent of voice, data and video. Customers may not care where their electricity comes from, but it offered instantaneous video and music downloads and an always-on Internet, one may find them standing in their yard with a shovel in their hand.

THE "HOUSE THAT JACKS BUILT"

Power entrepreneurs can also meet the homeowner halfway, in a sense. John Laing Homes in Virginia is building homes with high-speed data, audio and video preinstalled during construction in nearly every room to provide enough bandwidth for any application. Cost of the wiring is included in the home. Cable runs through rooftop and attic for direct satellite, and PVC conduits are left in the walls for future wiring. The company's motto: "Retrofits are Hell."[15] Such developers are clearly potential partners for power entrepreneurs.

POWER LINES AS VOICE AND DATA NETWORKS

Another avenue that may induce new electric firms to justify the expense of adding to or modifying wires networks is hinted at by the discovery of engineers at United Utilities PLC and Northern Telecom Ltd. This partnership has developed the capability for phone calls and high-speed Internet access to be offered through the standard electric outlet, "thus posing a serious threat to current providers of those services."[16] By ironing out disturbances, the method allows electricity and information move through the same wires like ghosts through a wall. Trials are underway in Europe and Asia, where the electrical system is better suited than in the U.S.[17] The process allows two-way data transmission, local area networking through office wiring, and is ten times faster than ISDN over phone lines. Such breakthroughs can reshuffle the value of wire networks in ways regulators can never anticipate.

SIDEWAYS DIRECTIONAL DRILLING

Scientific American and other publications recently have described the relatively new computer controlled technology allowing oil and gas companies to drill sideways, flexibly snaking under streets and buildings with no disturbance above-ground, while sensors detect available oil and other products or allow lines to be installed. Some procedures leave a four-inch opening in place. If monopoly rights are eliminated, sideways directional drilling might be employed to bury low-voltage electric distribution lines in towns, which could bring costs down for all applications. This technique can be attractive compared to digging up a crowded city or residential street. Options could include inviting firms like Qwest and cable TV operators to run their lines down the conduit in exchange for shouldering some of the costs.

RAILROAD EXPANSIONS

Between 1992 and 1998, railroads have invested tens of billions of dollars in track and equipment upgrades, expansions and improvements.[18] Since many regard railroads' new level of investments as unjustified given the industry's weak projected growth, the industry is prime a candidate for partnerships with access-seeking electric providers. Railroads want the new trackage and infrastructure but can scarcely afford it, while power companies need the access to customers. Relatedly, large railroads are in an ongoing streamlining process of selling off 30,000 miles of trackage to "short-liners" – small railroad spur companies -- largely in rural areas. These represent potential partnerships or exploitable rights-of-way as well.

FIBER OPTIC CABLE IN THE OCEANS

The potential problems in installing power lines, especially low-voltage ones, can be minuscule compared to those confronted in sinking fiber optic cable in the oceans. The Fiberoptic Link Around the Globe, a consortium of Nynex, Cable & Wireless and Sprint, is a 17,000 mile cable connecting London and Japan, longest fiber optic cable of all, and perhaps the longest engineering project in history[19]. Another endeavor, the $14 billion, 30-partner Project Oxygen (a "super Internet), will install 199,000 miles by 2003, touching 175 countries. Such projects entail negotiating with regulators around the world – not just a state public utility commission and the FERC. For those who speak the language, here's a prime example of a "natural monopoly" -- yet the risk rests with these companies, not their customers, as is the case with regulated utilities.

There is no clear winner in the race to own data networks of tomorrow. The future is open, and the power industry shouldn't seal itself off by embracing a regulatory model.

Smaller Scale and Aggressive Generation

New generation technologies that can undercut central station utility costs threaten utilities' comfortable lock on generation and have helped inspire today's clamor for competition. In response, utilities are employing "distributed generation" – often modular, self contained units much smaller than existing central generating plants, that can be sited closer to the end user.

These typically range in size from 60,000 kW down to microturbines of about 5 kW.[20] (The average giant central-station coal-fired plants is about 500,000 kW.[21]) Options include diesel engines, combustion turbines, microturbines, photovoltaic arrays, various forms of fuel cells and battery storage.

Traditional utilities, recognizing that distributed generation lessens reliance on central generation and high voltage, are defensively exploiting these technologies to meet peak demand without building new transmission or investment in more central plants, to serve remote customers, and to improve customer relationships with new services and improved quality and reliability.[22] In a sense, there already are two grids: the power grid, and the natural gas pipeline network. In many cases, it is natural gas, not electricity, that will be transported long-distance.

Weighing a few hundred pounds and often sporting only a single moving part, microturbines of less than one megawatt can furnish on-site power, such as servicing a 7-Eleven or a large home. One example is Allied Signal's 75 kW TurboGenerator, which sells for $40-$50,000, or almost $670 per kW. Operating costs are 4.5 cents per kWh, while total costs, including recovery of capital, are 6.7 cents per kWh. New Energy Ventures is marketing the system widely in the western states, and McDonalds is one famous customer. Allison Engine, owned by Rolls Royce, and Capstone also produce microturbines. According to the Electric Power Research Institute, reliable, low-maintenance commercial applications could be available for under $300 per kW within three to five years.

Trends toward smaller scale generation are probably the most significant change confronting the power industry, and they help undercut the case for forced access.. EnergyWorks chairman Mason Willrich told *Public Utilities Fortnightly* "I don't see us going back to 1,000-Mw nuclear plants, or to coal. We need to think hundreds, not thousands."[23] While capital costs are about 30% higher for gas turbines in the 1 MW to 20 MW range -- though that is cheaper than central stations – labor and net fuel savings can give smaller units an additional advantage.[24] It's easy to envision hospitals, commercial firms, shopping malls high-technology firms, Internet service providers and others running sensitive electronic equipment who require uninterrupted power embracing microturbines. Single or stacked units in buildings and along new streets (perhaps ultimately displacing utility-owned distribution lines) may be in the offing, helping improve reliability.

RKS Research & Consulting finds evidence of a "major shift from the model of central station plants and poles and wires to a new paradigm of small, decentralized power and networked control system. The shift could rival the change in computing from the mainframe to the desktop and network server in social and economic significance.[25] They further find that one-fourth of businesses are troubled by periodic fluctuations and outages, and one-fifth willing to pay 10 percent premiums for solutions.[26] Firms other than existing distribution utility monopolies must be allowed to exploit these developments. Ending exclusive distribution licenses will prevent utilities from parlaying their monopoly power in distribution into domination of the future wave of distributed generation and microgeneration, as open access unfortunately may

allow them to do. Utilities' government-protected advantage over competitors -- and over captive customers – must be revoked before mass-produced microturbines saturate the marketplace.

An extra technological and economic incentive for the adoption of smaller scale generation is the recovery of waste heat. Thomas Casten, President and CEO of Trigen Energy Corp. sees the entire electrical grid being bypassed, arguing that "The central electric generating plant without heat recovery is finished as an economically viable technology" because the typical central station plant that sends 70 percent of the energy from the source fuel up the smokestack as waste, is pouring money down the drain.[27]

Companies like Trigen, sensing lost value, produce standardized, mass-produced modular "trigeneration" systems, which burn fuel to make three energy products: steam, electricity and chilling for air or water. This process serves offices, universities and hospitals, tripling efficiency to 90 percent. In Trigen's case, a key is a 3mW assembly-line produced gas-fired cogenerator that can be trucked to a site from order to operation in two months.

Improved Technological Control of Power Flows

Accompanying the claims that the grid is a natural monopoly, one reason for calls for continued regulation has been that electric power simply flows where it wants. One former Deputy Energy Secretary, in discussing the "tug of war" over deregulation by state and federal authorities, noted that "Electricity markets do not behave according to political boundaries" and that "Electrons don't respect borders."[28]

While today's bulk power system indeed operates under constraints for which design and operation must allow, it's less true now that electrons won't respect borders. The development of silicon-based switches that improve technological control over power flows by switching electronically rather than mechanically can allow efficient producers to extend their reach.[29] Successful control of the grid might be thought of as paralleling the control of small currents on a computer chip, which is itself a tiny grid.

So far, this technology is best used where lines are loaded and restrict power marketing.[30] A study of the Flexible AC Transmission System on the Georgia/Florida bottleneck, "found that for roughly a $25-million to $30-million investment in FACTS controllers, power transferred between these states could be increased from 3,400 to 4,100 megawatts. That's an increase of 21 percent, which would yield roughly $130 million per year in additional revenues."[31]

Note that improved grid control pulls the industry in the opposite direction from microturbines, since there enhancement of capacity, reliability and stability of central station generation will raise the value of central station generation and long-range transmission relative to the widespread adoption of distributed generation and microgeneration. Regulation will not discover the proper balance between the two approaches, but ending franchises and allowing natural market development can do so. One might reasonably argue that the grid remains largely

uncontrollable today partly *because* it is regulated. Open access could further lessen market pressures to adopt grid-control innovations, since no individual firm's profit is likely to urgently depend on controlling power flow. Allowing markets to find the best mix can make transmission more precise than it has ever been, rendering the existing grid increasingly antiquated.

User Ownership of Power Networks

Along with opening up competition between the competing visions of the central station model vs. on-site generation, phasing out exclusive franchises will put into play customers' own incentives to exercise control over critical network assets. For example, large power users, such as a manufacturing plant or a consortium of businesses in a high-tech office park, could purchase portions of the grid themselves, thereby entirely eliminating any risk of price gouging.[32]

Threats and "Rifle Shots"

The foregoing examples illustrate that there will be no shortage of competitive pressures if franchises are ended. Deals and threats by rivals can go a long way toward opening markets. At most -- as a temporary measure where bottlenecks cannot be overcome in a reasonable amount of time and if there is a legitimate threat of customer abuse stemming from the historical monopoly status of the utility -- "rifle shot" requirements for forced open access might be considered by the states. But the access requirement must sunset; and private control of the bottleneck in question is urgent in order to provide the proper incentives to expand capacity.

The Market Alternative Best Protects Consumers and Reliability

Forced access advocates forget that innovation in transmission and distribution is as important as innovation in generation. Regulation is unable to mimic competition. Under forced access, entrepreneurial incentives to undertake unique wiring projects, newfangled silicon control switches, infrastructure maintenance, or non-utility deployment of innovations like microturbines are compromised because their advance remains too dependent upon what federal regulators do. Efficient, not administered, pricing and entry are necessary to guide capital, plan capacity and locate new generators and wires. As Douglas Houston notes, "A flaw in most transmission grid proposals is that they lack an explicit incentive for participants to alter capital without regulatory 'urging.'"[33] Transmission prices too low lead to skimping. Prices too high lead to gold-plating the network. It is highly unlikely that regulators will consistently hit the mark and generate efficient investment. Entrepreneurial incentives to invest in whiz-bang technologies must be maximized, which requires an end to franchises. Otherwise, optimal market development and innovation is jeopardized. For example, when would a homeowner's association find itself in violation of a local franchise? What about a business park?

Altering the reform model would set in motion a restructuring that is as fully efficient and entrepreneurial as possible. More importantly, years would be saved and the need to revisit the industry to have its distortions legislatively ironed out, as may occur in telecommunications, would be minimized. Indeed, if today's reformers had instead mounted a campaign to end exclusive territories, we would likely be much further along in the electricity reform debate. There is a crucial difference between mandating competition through open access/common carrier models -- and simply allowing it where it is forbidden. Needed are what Alan Moran of the Melbourne, Australia, Institute for Public Affairs calls "entrepreneurial interconnects" -- not their opposite, the heavy-handed, mandatory Independent System Operator, whose incentives are distributional, not profit-related. The ability to make and execute rational market strategies depends on whether the operator is an owner or not, and thus whether he profits or loses from decisions. Under genuine competition, the regulator disappears. In contrast, mandatory access assures a prosperous future for the Federal Energy Regulatory Commission and the state public utility commissions.

Technology, rather than regulation, best protects reliability as well, since owners in hotly contested markets have the greatest incentives to protect customers in order to preserve and expand their markets. Proper market structure lies somewhere on a continuum between central generation and long-distance transmission, and onsite generation and zero transmission. But that point must be discovered and rediscovered daily, not dictated, particularly given the pace of technology. While power is still produced by twirling magnets, just like it was 100 years ago, everything incidental to the process has changed. Reliability must be a competitive feature, not set at locked-in, regulated levels. Markets need to allow room for experimentation with both proprietary and user-owned lines to maximize reliability, for example. Consultant Mark Mills points out that the "noisy" and "dirty" grid is leading developers to design buildings with separate power systems, and argues that the grid ultimately will need to emulate the architecture of the Internet to attain necessary reliability levels.[34] Mills notes that these transformations become increasingly urgent as the grid evolves from serving "dumb" devices like bulbs and motors toward more sensitive equipment that cannot withstand downtime.

Firms can be expected to offer various levels of reliability to meet customer needs. For those who encroach upon incumbent territory to attract new business in the first place, they must make credible assurances of reliability. Additionally, to the extent deregulation fosters trends in the power marketplace toward stand-alone generation units, like banks of modular microturbines, customers are less susceptible to the cascading power failures that affect thousands or millions of power users, making them essentially immune from "reliability" concerns. To the extent open access biases the market toward a system in which many rather than few customers are affected by a given power outage, it is an impediment to rather than a facilitator of reliability.

The answers to questions regarding the shape of tomorrow's power markets are not all locked in today's initial conditions as planners assume. Information will be created as we go along. Policymakers should commit to nurturing a system whose shape will no longer depend on

any regulatory authority making the right decisions. Getting started requires removing the prohibitions against competition, not forcing it.

Why Today's Combatants Should Support a Free-Market Alternative and Avoid Open Access

My handouts provide some brief examples of what market reforms might look like. The more practical and correct approach is to address franchises now, which will allow policymakers to avoid tearing off scabs a few years from now to iron out the distortions created by mandatory access. Open access risks continued pressures for re-regulation as well, such as price caps on transmission. Needed instead is the recognition of the vital role of private property rights in wires to prompt investment in viable, dynamic, reliable networks.

No matter how many committee hearings, Senate workshops, or technical hearings FERC has on keeping Independent System Operators independent or otherwise ensuring "efficient" regulation, the desire of property owners to control their property is incompatible with the desires of others who wish to hitch an uninvited ride under open access.

For long-term success and innovation, competing transmission and distribution owners must own the rights to future profits from innovation on the grid. Fortunately, the free market alternative of ending statutory monopoly rights rather than instituting retail access can help unite today's warring interests. For example:

Utilities win because they: retain rights over their transmission system; can charge what the market will bear rather than a regulated price; need not surrender control to an ISO or regulator; can recover stranded costs, limited merely by the right of others to compete; gain the right to invade the territory of others; and will experience a quicker end to PUHCA and PURPA.

Industrial customers get more rapid competition without waiting until 2001 or 2003 and without basing business location decisions on waiting for distant states to implement open access. Nor should they worry over suffering from potential pullbacks in cogeneration or stand-alone power markets created by uncertainties over open access, nor should they pay undue stranded costs.

Consumers win because: the grid develops naturally, since newcomers must demonstrate competence; grid innovations become necessary, competitive features rather than regulated ones; reliability is maximized; and there is no possibility of slamming.

With the opportunity to deregulate properly and permanently before us, armor plating regulators is the wrong thing to do.

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ENDNOTES

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Mr. DOOLITTLE. Thank you.

I announced this this at the beginning, but now that some of our additional members have shown up, all of the proceedings are being broadcast live over the Internet. I wanted to make you all aware of that.

Well, I appreciate the testimony that all of you have offered, and, Mr. Crews, let me just begin with you. Is there one jurisdiction some place that comes closest to implementing what you have advocated here?

Mr. CREWS. I think even at the level of the States, even at the State level, distribution franchises are staying intact. I think, ultimately, what might make sense is something like was done with the intrastate trucking deregulation that Congress did a few years ago as part of the FAA reauthorization. Congress removed the right or the ability of States to limit access of trucking companies and to limit their prices. That is the kind of thing that should be investigated. I think even if we have full mandatory access put in place at the State level and at the Federal level, we are still left with local delivery franchises for the next 10 years of so, and we would have to revisit that question.

And I think a lot of potential pain could be avoided by addressing those kinds of concerns now. The Supreme Court has addressed them recently in the Bell case in terms of—the case involved not every service has to be offered to competitors on an open-access basis. It was bogging some of those services down. So you can run into problems there with innovation.

I am given to understand that in Colorado there is an example where—I don't know the details of it, but it is something I could certainly look up and supply to the Committee—where a gas company was offering services to customers, but was not offering itself as a public utility. And therefore, it wasn't subject to the mandatory access requirements and things of that sort. So there are things that can be picked up.

Mr. DOOLITTLE. Well, if you could find out something more about that and send it along I would appreciate it.

I saw you nodding your head, Mr. Casten. Did you want to comment on that subject?

Mr. CASTEN. To your direct question, sir. In 49 States, if a private power entrepreneur runs a wire across the road, they receive a go-to-jail card.

In Colorado, there is a law that has been tested for the gas companies that allows you to serve a group of private people. It hasn't been tested electricity-wise.

I think the example you are looking for is the United Kingdom. In 1989, when the U.K. deregulated, they allowed anybody that wanted to to run a wire. There haven't been very many wires run, but the cost of distribution and transmission has fallen to everybody because the monopoly protection was removed.

Mr. DOOLITTLE. Mr. Hoecker, would you want to comment on this subject?

Mr. HOECKER. Well, I am not familiar with the Colorado law that has been mentioned. It sounds to me as if there is some form of distributed generation off the grid.

If we are talking about the transmission system or interstate pipeline transportation, we are talking about industries that do have characteristics of natural monopoly. They are becoming open access. I happen to think open access is a very positive development, not simply a job-insurance program for regulators.

We have seen, as Mr. Casten has mentioned, natural gas prices drop since well-head prices were deregulated. And we have done our part at the FERC to promote access and free markets in the interstate pipeline industry. We expect to do the same thing for electric transmission as well.

And it is clear that the Congress, through the Federal Power Act, has concluded that these kinds of facilities are affected with a public interest, that they have monopoly characteristics, and as the DC Circuit has said in another context, the Federal Power Act and the Natural Gas Act fairly bristle with concern about undue discrimination.

So as we move toward a free market and entrepreneurship and begin to bring the forces of markets to bear on industries that have formerly been monopolies, we have to structure a reasonable transition and not simply walk away from our public interest responsibilities.

Mr. DOOLITTLE. Mr. Crews believes that this isn't as great a problem as some seems. So somebody else runs a separate distribution facility, what's the problem with that?

Mr. HOECKER. I think separate distribution facilities or non-utility transmission services, while we haven't seen them, are entirely possible, but I also think that investors are going to think twice before building essential facilities in competition with the local utility franchise, who has had those facilities paid for by ratepayers over several generations. That is to go in the face of good financial planning in my estimation.

Mr. DOOLITTLE. Do you have an answer to that, Mr. Crews?

Mr. CREWS. Well, I would say, we don't have to argue about it. We can do away with the franchises and see what occurs. It may be that nothing does happen, prices remain high, and open access should be instituted on some kind of an ad hoc basis because of that residual monopoly power. But someone may move in, and if someone does attempt to move in, and we are seeing duplication and redundancy in other network industries, if someone does move in, that local utility has a serious problem on its hands. Because if someone does take the step of putting in new wire and all they have to do is call Pirelli Cable to do it, if they make the deals and lay that wire, then that utility really has a stranded cost on its hands.

Mr. DOOLITTLE. Well, my time is up. The Chair recognizes Mr. Smith for his questions.

Mr. ADAM SMITH. No questions.

Mr. DOOLITTLE. Mr. Walden is recognized.

Mr. WALDEN. Thank you, Mr. Chairman.

A question for Mr. Hoecker: The Northwest delegation is working to develop a regional approach to balancing the role of the Bonneville Administration in a competitive environment. Similar efforts, I understand, are underway at the TVA. Do you support these sort of regional approaches on this issue?

Mr. HOECKER. Absolutely. I think looking at the electricity market on a regional basis is essential as bulk power markets and the number of wholesale transactions become more important and become more numerous. It is important that we look at reliability, transmission planning and expansion, and transmission pricing policies on a regional basis so that we can have real market forces at work at the generation level.

Mr. WALDEN. Given the discussion you and Mr. Crews had a moment ago about deregulating the transmission side, do you see that there would be a problem in a district like mine that is 72,000 square miles where we have got one person for every nine miles of line, in some cases? Do you think we would see some cherry-picking go on in the urban areas and leave the rural areas underserved if it is not under monopoly control?

Mr. HOECKER. I think that is always a concern. I think it ought to be the policy of regulators, and of the government generally, to ensure that all Americans have fair access to electric power. And, clearly, some remote rural customers are very expensive to serve. So, you are right, it is not an easy answer when it comes to those people.

Mr. WALDEN. Mr. Crews, I would entertain a response from you on that question.

Mr. CREWS. It is always a concern. You want to be sure that rural customers are served. But rural customers don't need just electricity. They need cable TV and Internet access, and all those kinds of things. And I would think that the best way to at least help assure that is to make sure that there is not a local monopoly that can't be competed against, to at least have the potential for others to figure out a way if they can to come in with a wire.

And if they team up with—for instance, railroads now are selling off something called their short-liners. They are selling off their short spurs that serve rural areas. It is a perfect opportunity for them to sell those to, say, Level 3 and Enron, and then those two go in and try to put some infrastructure in place.

So we need lots of things occurring. And plus, if it a rural area, it is easier to get the rights to lay wire rather than——

Mr. WALDEN. Yes, I would suggest that at some point I invite you to come to my district. Towns like Fossil and Condon, they don't have cable TV, either, or very good access. So competition is really not the issue. It is just trying to get service at all.

Mr. Hoecker, I want to go back to you in the limited time I have. You have testified in favor of gaining jurisdiction over more than 400 transmission-owning electric co-ops. I assume this is, presumably, in response to existing problems or lack of jurisdiction. In the last years, have you run into those kinds of problems? Co-ops? Complaints?

Mr. HOECKER. I think—let me hearken back to your first question, which is the importance of regionalism. In using all the high-voltage transmission, which is generally highly integrated with the investor-owned transmission, electric co-ops, transmission-owning municipal utilities, and Power Marketing Administrations have important facilities that are integral to the operation of the grid. And if we are going to have a more efficient, more competitive bulk

power market, the entire network, it seems to me, needs to be subject to the same kinds of open access requirements.

And that isn't the case now. And whether we like it as a regulatory matter or not, transmission that is owned by one set of utilities, be they FERC jurisdictional or not, the operation of those facilities affects everybody's service.

Mr. WALDEN. Okay. Under the administration's bill, FERC would gain jurisdiction over more than 400 co-ops, a thousand muni's, PMA's, TVA, BPA. How do you plan to handle that somewhat increased workload you may find yourself with?

Mr. HOECKER. Well, I should be clear that what we are seeking jurisdiction over is the rates, terms, and conditions of high-voltage transmission service. BPA, TVA, those co-ops all provide a diverse menu of services to their customers, including retail service.

The Commission has no interest in that. We are not a retail regulator. That is the bigger part of the market. And we are simply trying to ensure that the bulk power market is inclusive and as transparent as possible.

Mr. WALDEN. Thank you, Mr. Chairman. I yield back my time.

Mr. DOOLITTLE. Mrs. Napolitano is recognized.

Mrs. NAPOLITANO. Thank you, Mr. Chair.

Mr. Hoecker, there is a specific question I have based on California experience. One of the things that was brought to my attention is that NEV, the New Energy Ventures, this week purchased the AES. One of the news accounts, they have a long-term contract to buy power from Bonneville, the Federal Power Agency's largest single customer outside the Pacific Northwest. The contract arrangement shields NEV from Bonneville's decision earlier this year to sell its excess capacity at prices set by the California Power Exchange.

As a result, NEV remains able to buy power at below-market rates for resale in the California market, which is going to undercut, you know, some of my smaller providers. In effect, they are going to be pocketing the difference between the secret contract price for taxpayer-generated power and the higher market price.

What sort of Federal or the FERC controls would have to be in place to address this kind of situation?

Mr. DOOLITTLE. I would be happy to provide you with a fuller answer with that question. I think I would have to take a look at the contract arrangements. When Bonneville sells into southern California, or into California, into the independent system operator of the power exchange, it is subject to the same rules as any other seller of electric power.

I am not sure to what extent the New Energy Ventures contract with them would undercut, or the merger that you mentioned, would undercut the other providers in terms of price, but I would be happy to provide you with a fuller answer to that.

Mrs. NAPOLITANO. I would very much appreciate it.

Mrs. NAPOLITANO. Second question would be that I am wondering what your position would be on H.R. 1486, the bill to provide for a transition to market-based rates for the PMA's?

Mr. HOECKER. Well, the FERC, of course, has provided market-based rates for hundreds of energy providers over the last decade.

And we have for new generation essentially allowed wholesale energy suppliers to sell at what the market will bear.

The concern I would have for market sales by a Power Marketing Administration is the concern under the statutes that they be able to recover their costs and repay their Federal obligations. But I haven't looked at this from a competitive perspective.

Certainly, we would like to see generation move to market. And I think that that is important for all sources of generation.

Mrs. NAPOLITANO. The other question I think I would have for Mr. Casten a—where are you? There you are. One of the questions is, what are the assumptions you are making when you assert that competition will cause the U.S. to drop its carbon-dioxide emissions to well below the targets of the Kyoto Protocol?

Mr. CASTEN. Carbon dioxide is unlike any other pollutant. The only way you get rid of it is to burn less fuel. The electric industry is horribly inefficient. It burns three units of fuel to produce one unit of power. We have demonstrated in all of our plants that we can burn one-and-a-quarter units of fuel to make a unit of power.

Mrs. NAPOLITANO. How do you accomplish that?

Mr. CASTEN. We localize the generation to where there is a requirement for heat, such as the Coors brewery or an agricultural processing factory, or chemical plant, hospital——

Mrs. NAPOLITANO. You have recovery?

Mr. CASTEN. We then recover the heat that would have normally been thrown away and use that to offset other fossil energy. We also avoid the losses that are involved in the transmission system because the electricity is generated right at the user at their local voltage. It doesn't go up through the wires.

And so the overall efficiency of delivery goes up by two-and-half times. The savings that we create totally come out of not burning fuel. So our company as a whole produced 54 percent of the CO2 last year that would have been produced had the same power been generated conventionally.

Mrs. NAPOLITANO. Very interesting, and I think it is very admirable.

Thank you, Mr. Chair.

Mr. DOOLITTLE. Thank you.

Let me ask and I invite you gentlemen to comment. I have read that within 10, or perhaps as long as 20 years, although the article seemed to imply it was more likely to be 10 years, many, if not most, homes would be generating their own power through fuel cells. Would you care to comment on that?

Yes, Mr. Casten?

Mr. CASTEN. The consensus of almost everybody that understands the technology is that we have learned that we can make power efficiently in smaller units and that the optimal power unit, which was moving up year after year, has moved down to very small.

Fuel cells are a wonderful technology because they are clean and they don't take any maintenance. And they would be in every home today, but they cost too much.

The argument that I believe I would subscribe to is that the automotive industry is probably going to drive the cost of fuel cells down via mass production, and that we will get to a point where

we make most of the electric power locally. Most of the transmission system will prove to have been overbuilt, and we will greatly improve the competitiveness of the whole society by that kind of a move.

Along the way, though, we are already able to generate power on-site in all of our industry, hospitals, high schools, medical centers, with technology that exists, is proven and is cost-effective. But we are prevented from doing that by all of these barriers to efficiency.

In this rural territory that the Congressman referred to, I could put in a plant in a high school and it is maybe not quite efficient economically. If I could run some of the power down to the local hospital, I might have an economic plant. But in 49 States, if I run that wire, I go to jail.

So if Congress removes some of the barriers and lets the technology that is already available compete, your constituents are going to see lower-priced power and more services. We are ready with the technology.

Mr. DOOLITTLE. So even in the rural areas, in that example, it would clearly be a benefit toward doing some of those things?

Mr. CASTEN. Absolutely.

Mr. DOOLITTLE. Mr. Hoecker, is it my understanding then that you are in support of this idea of asserting your jurisdiction over the PMA's?

Mr. HOECKER. Well, we would have to be given that jurisdiction by the Congress.

Mr. DOOLITTLE. Right, but——

Mr. HOECKER. Yes. I support that.

Mr. DOOLITTLE. You do support that. That would then mean that the PMA transmission facilities would be subject to the same open access requirements as the public utilities?

Mr. HOECKER. That is our purpose, sole purpose.

Mr. DOOLITTLE. Do you believe that electric energy produced at hydroelectric facilities should be considered renewable for the purpose of meeting a renewable generation requirement and should the Federal Government seek to impose that?

Mr. HOECKER. I know what a controversial question that is. And I view renewable energy, non-fossil energy, as very important. And hydroelectric is absolutely essential to the stability of the grid, particularly in the West. And I am happy to call it renewable. I am not sure what my opinion means as far as legislation is concerned.

Mr. DOOLITTLE. Well, I, for one, would be grateful, at least if you would express the opinion vigorously that it should be deemed renewable.

Mr. Casten, tell me your views about this issue of a Federal renewability standard. Do you think there ought to be such a thing? And if so, do you think hydropower should be counted as renewable?

Mr. CASTEN. Mr. Chairman, I think it is incumbent that we have leadership to move to a sustainable world. We are going to run out of fossil fuel, and before we run out of it, we are going to run out of places in the air to park all the carbon. Our grandchildren will still find water raining in the mountains and able to come down

and make electricity. They are going to find a lot less fossil fuel than we found.

So, I think that everything that doesn't burn fossil fuel ought to be encouraged. As to the specifics of the renewable standard, I think it is an awkward way to achieve the result, and that a better way to achieve the result would be for Congress to say to anybody that wants to make heat or power, go ahead, make heat and power, but here is the amount of fossil fuel that you are allowed to burn per megawatt hour you produce, and if you use more than that, buy some credits from somebody else. If you use less fossil fuel, sell your credits.

Oh, and another thing, next year, the amount allowed will go down. And then, periodically, Congress could set how fast that curve goes down, but let the market decide what is the best way to get to sustainability. You give us the leadership; certainly let hydro play a role in it.

Mr. DOOLITTLE. Thank you. Mr. Walden.

Mr. WALDEN. Thank you, Mr. Chairman.

I just want to follow up on your comment, Mr. Casten, because the example you used sort of strikes at the point I was trying to make. You could put in your power-generation facility for the high school, but you should know in this county of 1,700 people there is no hospital.

And so you might serve something in downtown, but it is the rural nature of this very county that I am struggling with on how all this works, because if you take the high school and you take the mill, and they are no longer on the grid there that the co-op is providing for, who is going to reach out? Is your company willing, then, to go out and go past the hospital and go out a hundred miles in this county and drop line every 9 miles to a ranch?

See? That is what I am trying to deal with in my district. I know it is unique from some, because it is so large and rural and expansive. But this is what the folks there are saying. People who have strung that line, maintained that line are saying, you take the big users off our system, who is going to step up to the plate to provide power to the ranch that is 30 miles out of town? Are you going to do that?

Mr. CASTEN. We originally granted monopolies in order to encourage people to invest that money, and that worked. We got everything electrified.

Mr. WALDEN. It did.

Mr. CASTEN. But Congress had to fill in the holes with the rural utility systems. The country is now pretty well electrified, and the wires are there. And my question is, why would the people with the wires there stop providing service if they no longer had a monopoly?

Mr. WALDEN. Well, what is their cost going to be though to do that if you take their big users off. Isn't their cost per going to go up to maintain the service?

Mr. CASTEN. I am not at all sure.

I grew up in Windsor, Colorado, which is a pretty rural little town served by an RUS. And Kodak moved in there. There is an opportunity for Kodak to make 20 megawatts of power about one-third cheaper than it comes from Tri-State, the RUS. If that power

was made at Kodak, you avoid the transmission cost of bringing that power over the mountain. And it is not clear at all to me that two businesses wouldn't work together. We are now starting with the power locally and much cheaper. And it can still get out to my father-in-law's farm.

But I think that the larger issue is to——

Mr. WALDEN. Well, we do have Cogen facilities throughout this district as well, and the power is purchased and is distributed.

Mr. CASTEN. Right. But the power can only be sold by the Cogen facility to its competitor. He can't run a wire across the street. And this tends to distort what is the best economic way to get it done.

I am arguing to take those barriers out of the way and trust, by and large, that markets fill every niche in trying to provide the service. Then come back if there are problems and make the adjustments.

Mr. WALDEN. Yes, but I guess I am not willing—I am concerned about just saying come back and fix the problem, because rural communities in districts like mine get left out on every highway that is created. And that's what I struggle with as I try and represent this area.

I mean, I have been in small business for 13 years. I know where the profit is in my business, and I know where the loss is. I don't go seek the loss. I go seek what is profitable.

And that is my concern for districts like mine that get left off the Internet, that wouldn't have power if it weren't for the government stepping in. I mean, I generally approach this from a very free-enterprise status, but, on the other hand, there is some basic service I am concerned will be lost if we are not very careful about how we go down this road. Can you help me with that? Because Kodak is not going to locate in Fossil or John Day or——

Mr. CASTEN. I share the concern with Fossil, but I raise another concern. The kinds of technologies that I referred to in my answer to the chairman are being held back because you can't put them in any place. And those are precisely the kind of technologies that would work pretty well on my father-in-law's farm, which is in Hill Rose, Colorado, which about as remote as you get. Those technologies will be developed and brought forward and made more cost-effective.

So I think that the challenge that you have—and I appreciate that it is a challenge—is to try to get the barriers out of the way, so that these technologies can develop and still take care of these remote parts of the market.

Mr. WALDEN. And I understand what you are saying. There is a company in Bend that has developed a power unit. I am going to go visit in the next couple of weeks. That, you know, they are trying to get down to microwave-sized thing that will produce enough power for a house. We have had generators before.

I literally have places in my district that just this year may get the first access to telephone service because they are so remote. And so, I mean, I realize I face a little different problem, but this is the problem I face, and to the extent we can get more power out there, great. I just don't want to leave those people off the line.

Mr. CASTEN. Just my final comment.

Mr. WALDEN. Yes.

Mr. CASTEN. I spend some of my time as the president of a Boy Scout Council, and we are building cabins in an extremely remote area. And the technology has now improved so that it is cheaper for us to put in photo-voltaic power than to run the transmission line. So the technology is coming.

Mr. WALDEN. Well, as a fellow Eagle Scout—and I serve on a council, too—I am glad to see you are doing that. Good work.

Thank you.

Mr. DOOLITTLE. Mrs. Napolitano.

Mrs. NAPOLITANO. Thank you.

Mr. Casten, I asked you the question in regard to the assumptions issue. One of the questions that I didn't quite get to, and didn't ask really for the answer was, does your industry need to take over what percentage, 10, 20, 50, of the market to accomplish the emissions reductions to meet the Kyoto Protocol?

Mr. CASTEN. In the United States, the average power plant was built in 1964 using 1959 technology. And I am thankful that the Internet and my personal computer came a little bit later or we would have a hard time being here today.

The people worry that, if Congress steps in, there will be the premature retirement of some of these assets. I would suggest that what we are facing is the post-mature retirement of most of the fossil power plants in the United States. It is not a matter of taking over the markets, but of generating that part of the power that is possible in connection with heat loads.

And I can tell you what that statistic is. We had a peak of 550,000 megawatts of electricity generated on the peak hours of the year last year in the United States. That is our peak.

The DOE has found that we could put in about 120,000 megawatts of new combined heat and power serving existing thermal loads, breweries, hospitals, universities, packing plants, chemical factories, and so forth. That would get us to a national average efficiency of 55 to 60 percent. And that level, we would be below the Kyoto carbon emissions, and we would be saving money.

Britain deregulated electricity in 1989 and is now 7 percent below the carbon output that they were at in 1990. All of the drop has come from generating efficiency in the electric industry. Carbon emissions from industry have gone up slightly. Emissions from transportation have gone up a lot. And yet, Britain's total CO2 emissions are 7 percent below where they were, and their economy is very healthy.

So what needs to happen is for Congress to change the rules so that this kind of efficient power will get built. Am I answering your question, ma'am?

Mrs. NAPOLITANO. You have gone around the way, but you got there.

Mr. CASTEN. Thank you.

Mrs. NAPOLITANO. Thank you, Mr. Chair.

Mr. DOOLITTLE. I am interested in unleashing these exciting developments. Sounds like it is your belief, Mr. Casten, that the existing regulatory scheme is what is hindering this and maintaining these inefficient plants in existence to this day. Is that correct?

Mr. CASTEN. Yes, it is.

Mr. DOOLITTLE. If we go to this deregulation, what happens to reliability in the system, which has been quite high, I believe, heretofore?

Mr. CASTEN. I know of no commodity in my lifetime that has been in short supply except those that had price regulation by the government someplace. Somehow there is bread on the shelf every day even though there is not a Federal bread regulatory agency.

[Laughter.]

I think that when you are in business, if you don't provide the reliability that the customer wants, you don't stay in the business very long. And I think we will as an industry provide reliability, but I make another point. Not every customer wants as much reliability as they are presently receiving. Some of that reliability costs an awful lot of money. Many of the big industries would find it cheaper to shut down a couple of megawatts rather than to pay for 20-percent extra power generation standing in place. Deregulation will give people those choices of how much reliability they buy. The market will supply it.

Mr. DOOLITTLE. Well, what is your reaction to that, Mr. Hoecker?

Mr. HOECKER. Well, I agree with an awful lot of what Mr. Casten says. I think these technologies are wonderful, and the market needs to test them. And they need to be promoted in an environment where these new sources of generation and some of the old ones, like hydro, have access to markets. And we want them to have access to the wires on a non-discriminatory basis. We think that will encourage their development. In those cases where they are distributed generation off the grid, I think the reliability question is a very poignant one because I think many Americans and American businesses would like to have the backup that connection to the utility, to the power grid, provides even if they self-generate.

I think that, frankly, reliability is—will be seen increasingly, perhaps—as a commodity just like power itself, and that a business decision to cycle one's plant offline for several hours to save power costs will be an important decision to make, and it is being done even today. But it is the universal access to power; it is the power at reasonable prices that I think Americans regard as almost a right. And I think that we tinker with that at our peril. So I am just advocating a bit of carefulness in this transition.

Mr. DOOLITTLE. Although the proponents of deregulation would argue that, with some evidence from industries that have been deregulated, that the prices would drop, not go up. And with respect to that, let me just ask you, talking about running the wire across the street and it being a felony or a crime in 49 of the 50 States, what do you think of the idea of relaxing that so that they could run the wire across the street?

Mr. HOECKER. Well, I am not an expert on retail access laws per se, but I think the competition needs to come to the retail environment just as we are trying to promote it at the wholesale level. I don't think that we ought to criminalize that sort of behavior, if in fact that is what is happening.

There are reliability concerns, safety concerns, pricing concerns associated with the kind of situation that has been described, but I personally think the government should not burden those kinds of transactions unnecessarily if there is no public interest involved.

Mr. DOOLITTLE. I don't know how we got you as Chairman of FERC, but I am glad we did. I appreciate your candid response.

Are there further questions? Oh, yes.

Mr. MELE. Mr. Chairman, if I could respond? I have heard a number of discussions dealing with the wires across the street, which is the jurisdiction so far of my members. And one of the things that concerns me, and it was brought up in the discussion with rural areas—and let me give you a little story.

In Pennsylvania, the co-ops also had to open up their systems, just as the investor-owneds did. Nobody wants to sell power in the co-op areas.

These two gentlemen are talking about running wire; they are talking about industrial customers. My members care about the residential ratepayer. The residential ratepayer isn't going to see new wire coming to their houses—maybe 20 years from now after the companies have made all of their money on the industrial side, and then the residential folks have to pick up that cost.

The other thing I would say, if you are going to allow residential distribution open access, if you will, you had better change the tort laws and the product-liability laws in this country. I would use that as a caution.

Mr. DOOLITTLE. Well, what is your reaction to the notion, if we change those laws that prohibit other people from building distribution systems, would that unleash the technology that would lead to many of the homes being able to generate their own power?

Mr. MELE. I think the technology is going to happen regardless of whether you open the distribution system up or not. As was stated before, there is money—if there is money to be made there, they will do it. If there is not enough money to made there, they won't do it. What they are going to advocate is, open up the distribution system—which is, I think everyone would agree, a State jurisdictional issue—open up the distribution to provide three or four different wires coming into a house.

And it is not going to come into a house. It is going to go into industry; it is going to go into large commercial, may even go to some small commercial. Residential ratepayers aren't going to see it for quite awhile.

Mr. DOOLITTLE. Well, suppose that were the case, and it went mainly to, which I presume probably would be the case initially, that it would go to the bigger users, but that is not necessarily a problem anyway, is it?

Mr. MELE. Not necessarily, I wouldn't think. However, the distribution system at that—when you are getting down to the level of the wires to the meter, the wires that are running down streets, I can see many reliability problems, perhaps. I can see, in certain instances, residential ratepayers' rates going up for their distribution component. I could see—foresee, rather—when there is a reliability problem, a residential ratepayer would pick up the phone and call his State legislator or his commissioner, his public utility commissioner, they are not going to pick up the phone and call the chairman and the clerk. They don't even know they exist.

I am talking about a residential ratepayer. You are right about the industrial and large commercial. That is 100 percent correct.

Mr. DOOLITTLE. I realize my time is up. Let me just ask this follow-up question. I think I have read that some power companies are now technically able to do other things with those wires than just put power through them, like maybe a phone service or a cable TV service or something like that. So doesn't this all kind of get rearranged, our whole model of thinking about this, now that those are sort or interchangeable? Any reaction? Mr. Hoecker.

Mr. HOECKER. We are seeing an incredible trend toward diversification in the utility business. There has been a lot of consolidation among electric utilities, but also between electric utilities and gas companies because they both have access to the customer base. There are alliances between electric utilities and telephone operations or data—I should be more sophisticated and say, data and Internet providers. I think that we will see an emergence of energy and data and other kinds of services to the home by the same and competing providers using the same wires.

But the essential point I would make is that they are using the same wires. They are using an essential facility that allows all providers access to customers. And when you have essential facilities like that, you have to ensure that access is fair and non-discriminatory, whether it is into somebody's house or whether it is between two utilities across the State line.

Mr. DOOLITTLE. Are there further questions from our members? Mr. Walden.

Mr. WALDEN. I might just follow up with one statement, Mr. Chairman, just to help, not ride this thing into the ground, but to give you an example in my district, Harney Electric Co-op has 348 miles of transmission line that services 1,887 customers. Now, again, I am concerned you could potentially go in and take whatever industrial customers are there, and there are a couple off the system, and, you know, the economics change dramatically for a small provider like that, just the economies of scale could be lost.

So, as we work through this, I think we have to take these situations into account, is what I am saying. Because I don't want to leave those people out there paying an enormous rate for the power they used to get all in the name of deregulation, because I think industrial customers are going to be the first ones served and benefited by whatever deregulation comes.

I also harken back to my days in the legislature in support of let the States make these decisions—and Oregon is working on a deregulation bill right now—as opposed to us always jumping in to decide these things for them.

So, thank you, Mr. Chairman.

Mr. DOOLITTLE. Let me just—did you want to respond? Go ahead, Mrs. Napolitano.

Mrs. NAPOLITANO. Thank you, Mr. Chair.

Just one more statement, and I have had discussions in California over this particular issue, and that is that utilities have become very cognizant of making money for their investors, at least in my area they do. And I was told at one point that they had to make a certain amount of earning for their ratepayer—for their investors, and I thought, I thought you were public utilities. And we got into a little argument over that.

Do you have any comments over that because that bothers me? Public utilities were meant to be serving the public, not necessarily to make money for their investors.

Naturally, that is an investment. I am an investor. I may lose money on my investment, but I am not guaranteed a good return on my investment—and if I put into stock or bonds, or whatever. And that bothers me because that changes the flavor, if you will, of what utilities were meant to be. Would you address that?

Mr. HOECKER. Well, there is a long history of utilities that are affected with a public interest, being regulated by agencies like mine and those that Mr. Mele represents. I think that it is very important that we protect those public interests in reliability and safety and reasonable prices.

On the other hand, it is important that investor-owned companies be able to earn a fair return and attract capital, so that they can continue to provide good services. Public utilities—electric utilities, in particular—kind of like the old Ma Bell, have been staples of the blue chip investment portfolio for a long time, and that is because they tend to provide a very nice dividend to their investors and are not necessarily always plowing their earnings back into the business because it hasn't been a competitive environment.

That may change as they are under pressures to compete. That may change their risk profile; that may change the way investors look at utilities. But I think it is important for us to make sure that they have a fair opportunity to earn their costs and a fair return. That's been a staple of the regulatory principles for the better part of this century, and I think that should continue to be the case.

But, clearly, when we move beyond cost-of-service regulation and into competition, they are at risk. And many of them are asking to be placed at risk, so they can provide new and innovative services. And we have to weigh those competing desires and motivations to make sure that we all have electricity service.

Mr. CASTEN. Could I comment on that quickly?

Mrs. NAPOLITANO. Certainly.

Mr. CASTEN. Just to put it in perspective, if you look at all the investor-owned utilities, they earn between 3 and 5 percent of their revenue as profits. The kind of changes I am talking about will drop costs by 30 to 50 percent. The profit portion of it, whether it is there with an IOU or not there with a PMA, is rather tiny. It is the 45 to 50 percent of the consumer dollar that is buying fuel or that is paying for transmission that goes away.

So profit is a small part of costs. It is about unleashing the competition to drive the other costs out of the equation. We energy entrepreneurs will all dream about making big profits when we do it, and then some guy will come in and offer a lower price, and the consumer wins just standing there watching.

Mrs. NAPOLITANO. I wish there were more of that.

The other question I have has to do with the fuel cells. What is the life of a fuel cell?

Mr. CASTEN. The only fuel cells that have been in commercial operation have now got over 40,000 hours on the stacks and they haven't been replaced. The cost of maintenance on a fuel cell is al-

most completely the replacement of the stack part of it. And everybody has sort of had to forecast what that is going to be.

It has surprised everyone in running as long as it has. It appears that the technology is going to be able to give us four or five years between major overhauls.

Mrs. NAPOLITANO. And the disposal of such fuel cells?

Mr. CASTEN. There is a platinum on the element, and they would be almost certainly taken back and recycled.

Mrs. NAPOLITANO. Recycled?

Mr. CASTEN. Yes.

Mrs. NAPOLITANO. Thank you.

Mr. DOOLITTLE. Thank you. Would you just care to take a minute, maybe, and briefly describe the fuel cell and how it might work in the home environment? Yes, if you would, too, Mr. Casten?

Mr. CASTEN. All of our existing generation with fuel is a combustion process that some way or other drives a piston or a turbine or whatever else. The fuel cell releases electricity in a different fashion. It uses a chemical process.

The fuel first has to be reformulated to be only hydrogen, and then as it moves across the cell, helped by a catalytic process, the electricity flows, very tiny electricity, seven-tenths of a watt. They stack these things up together to give you enough electricity.

The only emissions from the fuel cell are CO2, water and some heat. And you can use the heat to make hot water or whatever. The technology is marvelous. That's the good news.

The bad news is that the fuel cells today cost about $3,000 per kilowatt versus maybe $450 per kilowatt to put in a new combined-cycle gas turbine plant. So for fuel cell technology to gain acceptance, it is going to have to come down in cost with mass production.

Mr. DOOLITTLE. And that was your point about taking a page out of the automaker's book?

Mr. CASTEN. General Motors has recently tied up with a company, I think, called Plug Power. And there is a lot of money going to be invested to bring fuel cell costs down because that is about the only way we can think of to make a non-polluting car. And if fuel cell technology gets driven by the automotive industry, it will end up out in the ranch houses as well.

Mr. DOOLITTLE. Oh, so this would be used in automobiles as well, you mean?

Mr. CASTEN. Absolutely.

Mr. DOOLITTLE. Mr. Walden's concern about the rural areas—I mean, your testimony seems to acknowledge perhaps an exception for those areas or a way that even the improving technology could benefit those areas in the way of energy production, so they would free up dollars for other assistance. Is that a correct reflection of what you were saying in your testimony?

Mr. CASTEN. Yes, sir. I think there is some of the problem he alluded to. But I think we do need to separate distribution and generation. If there is cheaper power available, the companies with the distribution wires should be able to buy it and pass it on. But I will acknowledge completely that they get a lot of money from the one Kodak, and if Kodak is no longer there, there is some adjustment that would have to be taken care of.

Mr. DOOLITTLE. Okay. Further questions?

[No response.]

Well, let me just ask this—this raises one issue. I think you are describing a high-temperature fuel cell. But there are low-temperature fuel cells, too, aren't there?

Mr. CASTEN. The fuel cells that I am familiar with have heat left over from 500 degrees Fahrenheit up to about 1,000 degrees Fahrenheit, and all of it is capable of being recaptured to make some useful heat, if we put them in the right places. They all reject heat.

Mr. DOOLITTLE. What do you think? What is the timeframe that we will actually see these available for homes? What would be your best guess?

Mr. CASTEN. I think that if we don't deregulate federally, we are probably looking in the 2010, 2015 area. If we deregulate federally, we are probably looking at 2005.

The comment that Chris Mele made, I do disagree with. There are 15 of these States that make it illegal for you to generate power on the site of the customer if you are not the local utility. There are so many other barriers. Yes, we would love to go deploy these things, and hopefully, make a profit, but the barriers that I cited in chapter 8 of my book are so stacked up that it is almost a miracle when you are finally able to get a power plant in that is not part of the protected monopoly.

And I think Congress does need to say to the States, electricity is interstate commerce; you cannot restrict people from generating and selling electricity.

Mr. DOOLITTLE. Well, I would certainly like to thank all of you for the testimony you have given us. This has been a very interesting discussion. And I think it is indicative of the exciting times that we face, and some real opportunities and perhaps challenges that will confront us as we move toward it.

We no doubt will have a few extra questions that we would like to pose in writing, and we will hold the record open for your response, which we would hope would be as expeditious as possible.

Mr. DOOLITTLE. And with that, we will excuse the members of this panel.

Mr. HOECKER. Thank you, Mr. Chairman.

Mr. CASTEN. Thank you.

Mr. MELE. Thank you.

Mr. CREWS. Thank you, Mr. Chairman.

Mr. DOOLITTLE. We will invite the members of our second panel to come forward and ask you to assemble yourselves and remain standing, so we can administer the oath.

Would you please raise your right hand?

[Witnesses sworn.]

Let the record reflect that each answered in the affirmative.

We are very pleased to have you join us and welcome you to the hearing.

Our first witness is Mr. Alan H. Richardson, executive director of the American Public Power Association.

STATEMENT OF ALAN H. RICHARDSON, EXECUTIVE DIRECTOR, AMERICAN PUBLIC POWER ASSOCIATION

Mr. RICHARDSON. Good afternoon. I am Alan H. Richardson, executive director of APPA. I am just returning from seven days in Salt Lake City at APPA's annual conference. So while I would otherwise say that I am very happy to be here, and in view of the fact that I have just taken an oath, I will simply say, thank you for the opportunity to testify.

Public power systems consist of about 2,000 municipally owned, State-owned utilities located throughout the country. Public power systems truly are public utilities. They are owned by units of State and local government. They are directly or indirectly governed by elected officials. They are managed by public servants. They focus on protecting and promoting the needs of the communities they serve.

As I have listened to what the previous panel has been saying, it seems to me that it is more appropriate to talk about the role of the power marketing program in the context of industry restructuring. We are not really restructured yet. And it seems to me that a lot of the comments that you have received in the discussion that has occurred really looks at timing issues in the implementation of change, not whether or not change is going to occur in the industry, because clearly it is.

APPA does support comprehensive Federal legislation relating to industry restructuring, but, as always, the devil is in the details. The most important detail is that legislation advance the interest of all consumers. And I think that to me means that it has to address a number of issues and it has to be looked at in a longer term perspective than immediate and rapid change.

We are all trying to promote competition in the industry, but I think it is also important to bear in mind that competition is a means to an end, and that end is benefits for consumers. I think it is also important to recognize that in every environment, whether it is a natural environment or an economic environment, competitors try to monopolize the situation that they enjoy. And to me, that means that we need to make sure that we have a market structure in place that controls the natural tendency of these competitors to engage in monopoly practices.

To paraphrase a comment that was made, and has been several times, by FERC Chairman Jim Hoecker, he says that you cannot believe in competition and yet be an agnostic in terms of market structure. And I think that is absolutely true.

Now there are a number of issues that are a concern to APPA. I have identified them in my statement that I have submitted for the record.

To summarize briefly, we are concerned about Federal tax code provisions that deal with the way that we can use facilities financed with tax-exempt bonds in a new restructured environment. That is a critical issue for us as we move into a restructured environment and one that the House Ways and Means and Senate Finance committees need to address as quickly as possible to remove these impediments for publicly owned utilities who legitimately use the instrument of tax exempt financing for their own infrastructure facilities in order to operate, not simply compete but to operate in

a restructured environment that is a now a reality in 22 States, and soon to be a reality in many more.

Congress needs to clarify State and Federal jurisdiction to make sure that the States can move forward. State and local decision-making should be preserved. We do oppose a Federal date-certain mandate from this Congress for industry restructuring.

Most important, Congress needs to address market power issues because, as I said, market structure, we believe, is critically important to the realization of the goals of competition as the means to the ends of benefiting electric consumers. And that, of course, has to be the overarching goal for any restructuring activities benefiting all consumers.

Now we believe that the Federal power marketing programs that currently exist do contribute to these goals of promoting competition, protecting against market power, and benefiting all consumers. We think the allocation of Federal power to 1,180 publicly-owned and cooperatively-owned utilities keeps these institutions in the marketplace as competitors.

A viable market needs a multitude of buyers and sellers. And the preservation of those entities, certainly through this transition period in the marketplace, we believe is very important for the benefits it provides to enhance competition in the market.

Another function of these utilities is to provide yardstick competition at the distribution level, and we think that that is also very important. Yardstick competition does work. It is important for regulators to be able to compare the activities of various competitors in a marketplace, and these publicly owned and cooperative systems that operate today do serve that function.

By the same token, yardstick competition in generation, we believe, is served by the sale of Federal power at market-based rates into the market. Now I think we have seen this in the Pacific Northwest, for example, where the price of Bonneville power really has set the mark for the price of other power, including the price of power that comes out of the Washington Public Power Supply System. And I can tell you there is significant pressure on that institution to meet the price that is set by the Bonneville system.

So I believe the yardstick function continues to work and work to the benefit of consumers, certainly again through the transition period. The goal of electric restructuring is lower rates for all consumers. The proponents of market-based rates, however they might be defined, and I don't think we have come up with an adequate definition in the rhetoric, in the debate over PMA power, that adequately describes what market rates are, or would be higher than today's current rates.

And it seems rather inconsistent to me to advocate policies that increase rates for millions of consumers under the guise of industry restructuring intended to benefit consumers through lower rates when the exact opposite will occur.

Mr. Chairman, I thank you for the opportunity to be here this afternoon and look forward to questions you might have.

[The prepared statement of Mr. Richardson follows:]

Testimony of Alan H. Richardson, Executive Director

American Public Power Association

Before the Subcommittee on Water and Power
Committee on Resources

U.S. House of Representatives

Washington, D.C.

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Introduction

Good afternoon, Mr. Chairman. I am Alan Richardson, executive director of the American Public Power Association (APPA). I appreciate the opportunity to appear before the Subcommittee on Water and Power to present the views of APPA on the role and importance of the Federal power marketing program in a restructuring (but not yet restructured) electric utility industry, and to offer an overview of restructuring issues of great importance to our members.

APPA is the national service organization representing the interests of more than 2,000 municipal and other state and locally owned utilities throughout the U.S. While APPA member utilities include state agencies such as the New York Power Authority, South Carolina Public Service Authority, the Lower Colorado River Authority in Texas, and the Grand River Dam Authority in Oklahoma, and city-owned electric utilities serve many of the nation's largest cities such as Seattle, Tacoma, Sacramento, Los Angeles, Phoenix, Austin, San Antonio, Jacksonville and Orlando, the majority of our nearly 2,000 members are located in small and medium-sized cities in every state except Hawaii. The federal Power Marketing Administrations (PMAs) are not regular utility members of APPA and we do not purport to represent their interests. However, APPA does represent the approximately 580 nonprofit systems in 33 states that purchase part of their electricity supply from one of the four PMAs—Western Area, Bonneville, Southwestern and Southeastern. The power these publicly owned, locally controlled utilities receive from the PMAs is extremely important to the consumers and communities that they serve. Looking beyond the interests of these public power systems that have a very direct stake in the federal power marketing program, we believe that the continuation of the federal power program and the sale of federal power at cost-based rates is a necessary ingredient to the evolution of a more competitive electric utility industry that benefits all electric consumers. Because this power is of vital importance to communities that receive allocations of PMA power, and is of growing importance to the future development of a competitive electricity marketplace, APPA continues to support the federal power program and cost-based rates.

Given the complex nature of the electricity industry, it may be helpful to first provide a more complete definition of the publicly owned sector of the electric utility industry. Congressman Ralph Hall of Texas, ranking minority member of the House Commerce Committee's Subcommittee on Energy and Power, captured the essence of public power in his opening comments in a hearing before that subcommittee about two years ago. He described public power as follows:

> I think it would be helpful to outline what public power is and what it is not. Basically, public power is the electric utilities that are owned and operated by the "public." There are over 2,000 of them and they are not for profit. Their owners may be counties, public utility districts, and an occasional state, but in a great majority they are owned by individual communities. They are public institutions, and they are managed by public servants, located throughout the country. Their salaries are not dependent on how much energy they sell, or how big they can grow their utility. Their loyalty is to their customer-owners and to providing their community with not only electricity, but also a fruitful economy and quality infrastructure. While many public power systems purchase power from the PMAs and many public systems distribute TVA power, they are different because of the reasons outlined above. Finally, rural electric cooperatives or co-ops are not true "public power." Instead there are "private" cooperative organizations. At the same time, co-ops and municipal power share the same interests and not-for-profit status. *I encourage my colleagus to keep these distinctions in mind as we consider ways to restructure the electric utility industry.* (Emphasis added)

Federal Electricity Industry Restructuring Issues

Because we represent community-owned utility systems, the policy makers that establish the Association's policies and priorities put consumers and communities first. Our restructuring policies and priorities reflect this. They focus solidly on the goal of developing a restructured electricity marketplace that benefits all classes of consumers. Preservation of the critical role that the PMAs play in our industry today, and ensuring that the federal power program continues to play a pro-competitive role in the future, are among the several restructuring objectives we hold.

Mr. Chairman, APPA strongly supports the goal of increasing competition in the industry. But competition is not the natural order of things, and we face a difficult task of establishing an industry structure that will promote and enhance competition to ensure that the promised benefits of competition, advancing the interests of all consumers, will be achieved.

APPA supports comprehensive federal restructuring legislation because consumers can and should benefit from a more competitive electric utility industry. However, we believe that any federal policy intended to foster competition in the electric utility industry will fail if it does not provide the foundation for a new market structure upon which competition can be developed and sustained. To achieve this goal, we believe Congress must address a number of issues, including:

Private Use Restrictions on Outstanding Tax-Exempt Bonds: Public power utilities with tax-exempt bond financed transmission facilities may be restricted from participation in future regional transmission organizations. Open transmission access, a precondition to competition in wholesale and retail power markets, will be difficult to achieve if Congress does not address the issue. Further, municipal electric systems that have issued tax-exempt bonds to finance generation facilities under the old regulated monopoly framework face tough and potentially costly options for operating in the new restructured legal environment. If municipal utilities enter the competitive arena and violate private-use restrictions, their outstanding tax-exempt bonds could become retroactively taxable, affecting millions of bondholders. The Bond Fairness and Protection Act, a bill introduced in the House as H.R. 721 by Representatives Hayworth (R-AZ) and Matsui (D-CA) and as S. 386 in the Senate by Senators Gorton (R-WA) and Kerrey (D-NE), is a compromise solution to the private use problem. If enacted, this legislation will accomplish two objectives: (1) Clarify existing tax laws and regulations so they will work in a new competitive marketplace, and; 2) Provide encouragement for public power utilities to offer retail choice and open their transmission or distribution systems, thereby providing power supply choice to more consumers. The Senate bill now has 21 co-sponsors, the House bill has 41 co-sponsors. Representatives Largent (R-OK) and Markey (D-MA) recently incorporated the tax provisions found in H.R. 712 in their comprehensive restructuring bill, H.R. 2050.

Reliability: A voluntary approach to reliability will not work in an increasingly competitive market. APPA supports the North American Reliability Council's consensus legislative language on reliability that will create a self-regulating organization that would be overseen by FERC. The mission of the new organization would be to ensure that reliability rules are established, and enforced, with respect to all those providing transmission services.

Clarify FERC/State Jurisdiction so State Restructuring Can Proceed: Ultimately, the role of federal legislation should be to facilitate state decisions to implement retail competition by addressing issues that cannot be resolved by a single state or even a group of states. For example, the federal government has regulated transmission in interstate commerce for decades. Regional generation markets extend far beyond state boundaries. As a practical matter, an individual state cannot regionalize a transmission grid and make it independent from generation, nor can states effectively address questions of generation market power involving large multi-state or multi-national utilities. It is clear that these are the types of issues that fall squarely within the purview of federal legislation.

Maintaining State and Local Decision Making: APPA believes retail competition decisions are most appropriately made by states and localities that best understand the needs of their electricity customers. APPA opposes a one-size-fits-all federal mandate for retail competition by a date certain.

Market Power: If we want to change the structure of this industry from monopoly to competition, the regulatory regime implemented by the federal government and the states must change as well. Not only do we need to guard against increased market dominance by today's incumbents, we must also work to eliminate *existing* levels of market power that are certain to limit or inhibit competition. In fact, the ten largest utilities in the U.S now control over 30% of the total market, and the trend is toward fewer private utilities with larger pieces of the market pie. Unless it is adequately addressed in state and federal restructuring measures, such consolidation is certain to undermine the future competitiveness of the electricity industry. Some argue that Congress and regulators should let the market determine its future structure. What this means as a practical

matter is that today's utility monopolies, because of their dominant position, will determine tomorrow's market structure. APPA strongly disagrees with this approach. Competitive markets do not require a heavy regulatory hand, but electricity is not yet a competitive market. Policymakers must ensure that structural changes are put in place to ensure a transition toward effectively competitive markets – and that all consumers are protected from market power abuses.

Benefit All Consumers: Much of the push on restructuring has been driven by the concerns of larger industrial customers, who stand to benefit greatly from consumer choice programs. The jury is still out on whether residential and small business consumers will benefit financially from restructuring. Indeed, recent experiences in some of the states that have enacted restructuring legislation suggests that these smaller customers may not be of interest to many marketers. Therefore, these customers must be assured of access to a reliable source of reasonably priced power. If federal and state restructuring policies fail to provide these customers with lower rates, then the fundamental objective of electricity restructuring—the promise of more affordable rates for consumers—will never be achieved.

The Role and Importance of the Federal Marketing Program in a Restructuring Industry

Having set forth APPA's positions with respect to federal legislation to restructure the electric utility industry, I would like to turn now to the role of the federal power marketing program in an increasingly competitive industry. For a number of reasons, we believe that the federal power marketing program as it currently exists must be preserved if the underlying goals of industry restructuring are to be realized.

Allocation of Federal Power: The federal government is the trustee of our nation's publicly owned resources, and as such has a fiduciary responsibility to ensure that these resources are used for the benefit of the nation as a whole. Decisions by Congress regarding the use or allocation of public resources have been guided by this fundamental principle. For the most part, the allocation of public resources to benefit private parties for private gain has been permitted only when this serves a larger public purpose.

The granting of rights-of-way over public lands to the railroads at the end of the last century clearly enriched the railroads. But this served the larger public purpose of benefiting the transportation and commerce needs of the entire nation. Likewise, the Federal Water Power Act of 1920 authorized the Federal Power Commission (now the Federal Energy Regulatory Commission) to issue licenses to private entities so that they could capture the electric potential of our water resources. However, that statute included provisions to ensure that public benefits would go hand-in-hand with economic gain for private licensees. That same legislation also provided a preference in licensing for public agencies based on the public policy proposition that the nation would benefit from public development of these resources. These benefits included encouraging both actual and yardstick competition in the electric utility industry, and the sale of hydroelectric power from these public resources directly to the public on a not-for-profit basis.

When the government undertook the direct development of the nation's water resources, it did so in many cases to accomplish a host of public purposes beyond the production of energy, such as navigation, flood control and irrigation. Hydroelectric power was a byproduct of most of these projects, and Congress needed to establish policies for the sale of electricity. The determination to provide a preference in the purchase of federal power to public agencies and not-for-profit

rural electric cooperatives was based on many of the same principles found in the Federal Water Power Act.

The allocation scheme developed by Congress, and included in more than 30 federal statutes, was intended to accomplish a number of goals. One, of course, was to bring the miracle of electricity to millions of people in smaller towns and rural areas, territories not economically attractive to private power. But there was another, equally important reason, and that was to promote competition in an industry already dominated by private power companies by establishing an assured source of power supply to potential competitors – public bodies and rural electric cooperatives.

Today, the first goal has largely been accomplished. America is electrified. But the second goal, to promote competition, is equally if not more important than it was when the federal statutes were enacted.

Critics of the current allocation system like to focus on a few recipients of federal power, systems that might be characterized as the "affluent exceptions" such as Aspen or Hilton Head. They suggest that residents of these communities are unworthy recipients of federal power. This criticism misses the point. The allocation scheme was developed to promote competition in the electric utility industry from publicly or cooperatively owned utilities, and the fact that a few of these communities are more affluent today than when they were created does not undermine that basic purpose. These communities, and hundreds of communities whose names would not be recognized except by their residents, continue to serve the purposes intended by Congress when these laws were initially enacted.

The fundamental objectives and public benefits provided through the federal power program should be preserved. The four PMAs market the power produced at federal multipurpose projects. Power is sold at cost-based rates to repay the federal government's initial capital investment in the power facilities, and to cover interest as well as operation and maintenance. These PMAs are operated in the public interest to help ensure low electricity rates, to expand market diversity, and to counteract the risks associated with market consolidation.

I would like to focus now on two of APPA's policy objectives in restructuring – controlling market power and creating a new marketplace in which all consumers benefit – and discuss how the preservation of the current federal power marketing program is essential to achieve these objectives.

The Federal Power Program Promotes Competition By Mitigating Market Power

A discussion about market power policy is really a discussion of how to develop an effectively competitive marketplace. The key ingredients for effective competition in any market include the existence of many buyers and sellers, freedom of entry and exit for competitors, and access to available market information. However, the presence of market power and concentration means that none of these criteria can be fully achieved. In fact, true competition can be defined as the absence of market power, for when a competitor can also set the rules for the game, you cannot have true competition.

Yet, high levels of market power are exactly what we have in our industry today. The electric utility industry in the United States is dominated by private, vertically-integrated, regulated

monopolies. Approximately 80% of our nation's generation resources are controlled by incumbent utilities and their affiliates. These same investor-owned utilities also own about 70% of transmission lines of 138 KV or greater. Since such levels of market power and concentration are antithetical to competition, it is evident that we have a long way to go from where we are today to achieve structural competition in this industry. It is absolutely critical that any consideration of future policies governing the PMAs are considered in the context of market power policy, preserving and enhancing the competitiveness of the industry as a whole, and ensuring that all consumers benefit from restructuring.

Our industry today is going through an economic cycle we have seen repeated in our history, and one identical to what we have seen recently in other industries that have been deregulated. This cycle is characterized by surplus capacity, cutthroat competition, followed by consolidation and the acquisition and abuse of market power in the hands of a relatively small number of entities. This then gives rise to the specter of new regulatory constraints to protect consumers and the public interest. If we are to avoid this last step in the cycle – an eventual return to new regulatory constraints – we must have the good sense today to put in place a market structure that can prevent or control the potential for the abuse of monopoly power.

It is ironic that as policymakers strive to provide consumers with more power supply choices, we are actually seeing fewer and fewer options available due to consolidation. In fact, concentration in ownership of electric resources in this country is increasing at an unprecedented rate as today's utilities engage in mergers to enhance their position in the market. But every merger takes at least one potential competitor out of the market.

The rapid pace of this trend toward consolidation is clear and alarming – since 1997, 33 mergers have been proposed, and 22 were completed. In contrast, only nine were proposed during the three years prior to that, 1994-1996. Thus, preserving the existence of market players, and maintaining some diversity of those in the market, is of growing importance. The availability of federal power to current PMA customers contributes substantially toward this end.

Currently, the PMAs market wholesale power to 1180 municipal electric utilities and rural electric cooperatives in 33 states. With a few exceptions, the federal power received by these utilities is a small but very important part of their power supply mix. Small because the amount of federal power is finite (and with new environmental and other requirements actually decreasing) while the loads of these utilities continues to grow. Important because cost-based federal power is a low-cost resource that, when melded with other available resources, helps hold down retail electric rates.

Municipal utilities and rural electric cooperatives are the only competition the investor-owned utilities have historically faced at the retail level. These consumer-owned utilities are vital to maintaining the diversity of sellers necessary to develop and sustain a competitive electric marketplace. A withdrawal of federal power from these utilities through a reallocation of this power to other entities, a sale of these federal power facilities to private power companies, or a change from cost-based to market-based rates, would have an obvious adverse economic affect on these utilities. It would make at least some of them more vulnerable than they are already to acquisition by others. And as these competitors are taken out of the marketplace, the prospect of an evolution to a more competitive industry that can be sustained over time would clearly diminish.

The current utility recipients of federal power provide both actual and yardstick competition. The significance of "yardstick" competition was discussed recently in a paper presented to the New England Conference of Public Utility Commissioners Symposium in May, 1999, by Washington Attorney Harvey L. Reiter. Mr. Reiter highlighted the importance of having a device for measuring the performance of utilities in the marketplace. He explains, "yardstick competition, or the competition that occurs when the regulator can compare the relative performances of utilities it regulates with other utilities it regulates, or with neighboring utilities in other jurisdictions, places pressure on regulated utilities to perform better for fear of coming up short in the comparison process."

He goes on to observe that, "In the electric utility industry there is a widely held view that consumers benefit from competition if they are allowed direct access to multiple sources of power supply. And, in this regard, regulators have used merger proceedings as forums that have helped push the process of retail competition through conditions placed on the mergers themselves." But he then goes on to caution that while direct access may be a good thing, we must also focus on electric distribution systems. It will become increasingly difficult for regulators to measure the quality and reliability of these regulated monopoly distribution systems as "mergers leave them with fewer and fewer distributors to compare." The current allocation policies for federal power will help to retain a multitude of municipal and cooperative distribution systems in the marketplace, and they will then continue to provide this very valuable yardstick function.

The Importance of Cost-Based Rates

The continued allocation of federal power to current customers is only part of the equation. Sale of this power at cost-based rates is the other part. There are several reasons why we continue to believe that the sale of federal power at cost-based rates, as opposed to market rates, continues to be sound public policy. Some of these are directly related to points already raised regarding the importance of the current federal power marketing program in ensuring a successful transition to greater competition.

One of the most important elements of an effectively competitive marketplace is free access to market information. The PMAs further this goal by helping policy makers, regulators and consumers determine the value of electricity supply prices. As one of the few providers of cost-based wholesale power, the PMAs serve as a yardstick or standard against which consumers can measure the profit margin embedded in the costs for power from other sources. This key piece of market information promotes competition by helping consumers and regulators make informed decisions in a competitive marketplace. Mr. Reiter's comments referred to above regarding the importance of yardstick competition with respect to the preservation of a multitude of distribution systems, are equally applicable here. PMA power sold at cost-based rates can continue to provide this very important yardstick.

Likewise, the sale of federal power to public agencies and rural electric cooperatives at rates other than cost-based rates will result in an increase of the retail rates charged to their own customers. As noted above, rate increases for customers of these 1180 publicly and cooperatively owned utilities will undermine the financial position of these utilities, making them more vulnerable to acquisition by others. It is important not to undermine the position of these entities in the market because they do and will continue to provide healthy competition. So

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Mr. DOOLITTLE. Thank you.will be Glenn English, chief executive officer of the National Rural Electric Cooperative Association and a former distinguished member of the House of Representatives.

Mr. English.

STATEMENT OF GLENN ENGLISH, CHIEF EXECUTIVE OFFICER, NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

Mr. ENGLISH. Thank you very much, Mr. Chairman. I appreciate that. I am Glenn English, the chief executive officer of the National Rural Electric Cooperative Association. I represent some 1,000 electric cooperatives across the country. I might point, Mr. Chairman, these are privately-owned, not-for-profit, consumer-owned organizations.

And, Mr. Chairman, what I would like to do today is to request that my entire written testimony be made a part of the record and to speak not from the testimony but respond to the questions that you asked at the beginning of the hearing and also address some of the testimony that we heard earlier.

We have a rather unique perspective being electric cooperatives because in many States—in fact, most States—the 46 States that electric cooperative exist, we have some 83 percent of all the counties across the country in which we have electric cooperatives exist. They are not regulated. So that wire that you are talking about, those consumers who are part of those cooperatives do indeed have the ability to do exactly what Mr. Casten was saying that couldn't be done in so many areas and I think gives us a rather unique perspective with regard to much of what is happening in restructuring.

The reason that I say that is because I think, from one point of view, electric cooperatives are the only people who have truly had choice over the past 60 years that they have existed. And the reason that I say that is because, at any given time that those consumers wished, they could come together and vote to sell their electric cooperative, and sell it to anyone that they wished to sell it to. So it is a little bit different.

As you all know, certainly the reason our electric cooperatives got started in the first place is because of the fact that big power companies wouldn't provide electric power in many of those rural areas. And also, I think, it should be understood that not only would they not provide that power, but the only way that these people could get power is to do it themselves.

And what they found was that this mechanism, this form of private business, the cooperative mechanism, built on the seven cooperative principles, that allowed them to do it themselves. And they came together, with a little assistance from the Federal Government; through government loans, they were able to, in fact, build their own electric utility.

Now that electric utility has gone to the point now that it represents nearly half of all the electric utility infrastructure in the entire Nation. So it is a huge infrastructure that really only serves about 10 percent of all the consumers in the Nation, some 30 million consumers spread across those 46 States.

What we are finding today, though, as we are seeing restructuring take place in the States, is that people are deciding that

they would rather do it themselves. And they are once again reaching for that self-reliance, private-business approach known as the cooperative.

And this has recently happened in your home State of California, Mr. Chairman, in which we have the California Electric Users Cooperative, some 18 agricultural businesses, spreading all the way from San Diego to the Oregon border, who have decided to do it themselves. And they have formed an electric cooperative and are now providing power to those businesses.

And New York City, we have a group of residential consumers decided to do it for themselves. And we had the first Rochdale Electric Cooperative that was established there.

And what we are also finding is that, under a restructured environment, this gives an awful lot of people the opportunity to do it for themselves under this form of business.

We are developing new technology. You had the previous discussion with regard to fuel cells. And certainly the electric cooperatives have been very active as far as the research and development of fuel cells. We have, we think, a great opportunity to provide that for some of the most remote regions that are served by electric cooperatives.

For instance, one now that has been developed and is being tried is in the State of Alaska, in some small villages up there. And they are using that fuel cell. They have just about completed those tests, and they intend to install it permanently on an island off the coast of Alaska.

And, indeed, new technology is coming onboard. I have no idea, Mr. Chairman, nor can anyone else tell you from the standpoint of what technology will come, be developed in the next few years. I know it isn't going to be 10 or 15 years before you see fuel cells. As I mention, you already got it within probably the next two years that it is being operational in Alaska.

But what I do know is that we have a cost that is involved in providing electric power in this country. It is ultimately that cost that will decide what form of fuel will be used to deliver those electrons to businesses. And we have a huge investment in the infrastructure that exists today.

I suspect that what we will see is new technology coming online as it is affordable and as it makes sense to the American people. And as this new technology comes online, no question, it is going to replace much of the existing technology. There is no question; environmentally it is going to be more sound. There is no question that it will carry a lower price for the American consumer.

But the bottom line is, it is the economics, the sound economic principles that have always guided American business, that will determine when it comes online and how it comes online. And certainly, as far as the form of business that it will be used, I would suggest to you that the cooperative mechanism under a restructured environment will have the probably the greatest opportunity to lead the way because it is the consumers themselves that make the decision in that form of business.

Thank you very much, Mr. Chairman.

[The prepared statement of Mr. English follows:]

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TESTIMONY

of

Glenn English, CEO
National Rural Electric Cooperative Association

before the

U. S. House of Representatives
Committee on Resources
Subcommittee on Water and Power

June 24, 1999

Executive Summary: Electric cooperatives are consumer-owned, consumer-governed, not-for-profit private businesses that provide electric energy service to more than 30 million consumers in 46 states. Cooperatives believe that true competition in the electric utility industry will reveal electric cooperatives as the consumer option of choice.

In any restructuring of the electric utility industry, consumers should have the option of choosing a cooperative as an electric and energy services provider. Several principles should govern electric utility industry restructuring:

- Electric cooperatives welcome industry competition that benefits all classes of consumers and enables cooperative energy service providers to compete on a level playing field by offering the same services that other electric service providers may offer;

- Electric cooperatives have been active, engaged participants in electric utility restructuring in most of the 22 states that have enacted or implemented electric utility restructuring, including California, Texas and Montana;

- The various sectors of the electric utility industry are different. Investor-owned utilities serve predominately large industrial customers, while electric cooperatives serve residential, farm and small business customers in isolated, rural areas. A Federal framework for electricity competition must properly account for these differences. One size does not fit all.

- The formation of new energy purchasing cooperatives such as the California Energy Users Cooperative (CEUC) reflects a growing desire on the part of consumers for the cooperative way of doing business. CEUC has joined with rural electric co-ops in California in support of the Power Marketing Administrations (PMAs).

- A strong RUS loan program and access to PMA hydroelectric power are necessary to allow electric cooperatives to provide a consumer and industry yardstick for competition;

- PMAs represent a decades-long investment by electric cooperatives and public power and the equity of that investment needs to be recognized;

- PMAs should not be privatized, and PMAs should not be forced to market power at arbitrary so-called market rates – the affordable and reliable power provided by the PMAs mitigate the risks facing rural residential customers under retail competition;

- Electric cooperatives and the federal PMAs, because of their interdependent interconnections, are self-governed. Substantially increased FERC regulation is unnecessary and unwarranted.

Mr. Chairman, members of the Committee, I am Glenn English, Chief Executive Officer of the National Rural Electric Cooperative Association (NRECA), the association of the nation's 1,000 not-for-profit, consumer-owned rural electric systems, which provide electric service to more than 30 million people in 46 states.

I appreciate the opportunity to appear here today to offer the cooperative perspective on the restructuring debate and the role of federal power in that new marketplace.

Mr. Chairman, you might be interested to know that since I last appeared before this Subcommittee, our cooperative membership has grown significantly in your state of California. We are pleased to have as members of NRECA the California Electric Users Cooperative (CEUC), a federation of 18 agricultural co-ops that represent California growers and producers. In all, this diverse group of cooperatives represents citrus, avocado, cotton, almond, grape, seed growers and dairy producers from San Diego County to the Oregon border. CEUC is the nation's first electric co-op structured solely to service agriculture as an aggregated purchaser of electric power.

The Members of this Subcommittee from California may recall during our Legislative Conference where CEUC board members such as Lee Ruth visited your offices with our

California electric co-ops in support of our core programs such as the Power Marketing Administrations.

Electric cooperatives and their 32 million consumers welcome the benefits that competition in the electric utility industry can potentially bring to all classes of electricity consumers. Done right, competition can result in dramatic technological innovation and lower electric bills for American families. Yet, for competition to work for all Americans, it must recognize and accommodate the unique differences between different sectors of the electric utility industry. Rural electric systems serving isolated farms and ranches face different challenges than investor-owned utilities serving large urban industrial parks. The regulatory regime for the electric industry in the 21st century must account for these different challenges.

The Drive to Competition: Restructuring of the Electric Utility Industry

Electric cooperatives believe there are several tests to ascertain whether electric utility industry restructuring legislation promotes real competition for families, farms and small businesses in rural America.

First, effective competition must afford consumers the explicit right to choose how and from whom they receive their electric and other energy-related services. Electric cooperatives are private consumer-owned, consumer-directed, consensus-driven entities that offer consumers a clear alternative to traditional and emerging providers of electric service. At-cost electric service from cooperatives preserves a marketplace yardstick against which consumers—all consumers—can evaluate quality, range, reliability and cost of service against other types of electric service providers. Consumers must have the right to choose an electric cooperative as their supplier of choice in a competitive marketplace.

Second, Congress must not allow the debate into restructuring to result in a massive shift of regulatory authority to the Federal Government. The creation of an expansive new federal bureaucracy over rural electric cooperatives could dramatically increase the electricity rates for rural business and residential consumers and diminish the co-ops' ability to compete in an open marketplace without providing any tangible benefits. For example, the Clinton Administration's legislation on electric industry restructuring (*H.R. 1828; S. 1047*) requires substantial new taxes on all electric generation, creates a myriad of new programs at the Department of Energy, and confer expansive new powers on the Federal Energy Regulatory Commission (FERC). Included in these new powers is the extension of new FERC jurisdiction over more than 400 transmission owning rural electric cooperatives; some of these cooperatives sown as little as ten miles of line that serve a distribution purpose but are defined as "transmission" by FERC. Why submit these utilities to FERC jurisdiction without any corresponding benefit or value to the consumers of these co-ops?

Electric cooperatives strongly oppose this expansion of federal regulation. Such regulation is tremendously expensive and unnecessary to the promotion of open retail electric markets or system reliability. Cooperatives are already active proponents of national reliability

standards, and the development of effective regional transmission organizations (RTOs). These measures, not FERC's heavy hand, will be the most effective federal tools in managing the nation's transmission system for effective competition. I have attached a copy of NRECA's resolution opposing FERC jurisdiction of electric cooperatives and the Power Marketing Administrations to my testimony.

Third, effective competition must enable cooperatives to compete for the same customers and offer the same services as other sellers of electricity. The decision whether to repeal the Public Utility Holding Company Act (PUHCA) is a central feature of the federal restructuring debate. If this long-standing consumer protection law is repealed, consumers may be left with fewer choices as investor-owned utilities with deep pockets are suddenly free to expand into areas which PUHCA previously placed limitations on. This risk can be effectively mitigated by ensuring that consumers have choice by creating their own utility through a the cooperative form of private business.

Fourth, Congress should craft a federal restructuring policy that recognizes that the threshold question of whether to move to retail competition is a state issue. What works in New York or Connecticut does not necessarily work in Oregon or California. To date, 22 states have adopted laws or regulatory orders to open their electric markets to retail competition. Congress should let the other 28 states have that same latitude. Congress should not enact a date certain requirement for states to open up their retail electric markets to competition, nor should Congress require states to jump through onerous regulatory proceedings to prove that the status quo best serves its citizenry.

Fifth, effective competition means that all Americans—including consumers served by electric cooperatives--have access to reliable, affordable and safe electric service. To ensure this, electric cooperatives serving nearly 50% of all the infrastructure in the nation, must continue to have access to the loan programs of the RUS and to the federal Power Marketing Administration (PMA) hydroelectric power programs.

In fact, while retail competition is likely to mean lower rates for large commercial and industrial customers throughout the U.S., and may lower rates for families in high cost states, residential customers in many states will see limited benefits, and may see higher rates, under retail competition. A number of studies, including those completed by the American Gas *Association (The Impact of Industry Restructuring on Electricity Prices, July 1998)*, the U.S. Department of Agriculture (*Electric Utility Deregulation: Rural Effects, Briefing to Senior USDA Policy Officials,* January 1999), and the Energy Information Agency (*Electricity Prices in a Competitive Environment: Marginal Cost Pricing of Generation Services and Financial Status of Electric Utilities*, DOE/EIA-0614, August 1997) have recently made this very finding. A strong RUS loan program and continued access to the power of the PMAs are essential to ensuring that rural consumers who are otherwise at risk will enjoy affordably priced and dependable electricity.

The Power Marketing Administrations: Cost-based power for Rural Americans

Clearly, this Committee will play an important role in formulating policy decisions that impact the PMAs as the Congress debates restructuring the electric utility industry. NRECA recognizes the regional federal power issues that are part of this restructuring debate. For instance, rural electric leaders in the Northwest are working with several Members of this Subcommittee in developing a "Northwest Chapter" to restructuring legislation. In addition, we appreciate the strong support of many of the California members of this Subcommittee for the approval of the 2004 marketing plan for the Central Valley Project. The renewal of the 20 year contracts for the CVP will benefit the federal government and consumers in California, as well as the environment.

More than 600 rural electric systems in 34 states purchase all or part of their power supply from the PMAs. The rural electric systems have relatively few consumers per mile of transmission and distribution line. These systems, and the fragile rural economies they serve, depend on the continued availability of the federal resources at stable rate levels. The PMAs provide power at cost, and return millions of dollars each year to the federal Treasury. PMAs contribute to the affordability and reliability of electric service in rural America and set a standard for the cost of electricity for Americans everywhere.

We continue to hear accusations about PMA power flowing to affluent communities. Unfortunately, many of the people we serve in rural America have not shared in the economic recovery or are experiencing a severe economic downturn as result of the farm crisis. As Secretary Cuomo stated in his new report, Places Left Behind in a New Economy:

"Rural communities are not only isolated from the investment capital that cities are more successful in attracting; rural places are more isolated from the diversity and institutions and networks that can mobilize responses to the complex problems of chronic poverty and joblessness."

This is not news to those who represent areas in places like rural Oregon, Idaho or Texas. Compared to their respective state average, consumers in rural electric cooperative territory have 20% less income in Oregon, 9% less income in Idaho and 25% less income in Texas. Those who complain that federal power is flowing to rich communities simply have not spent any time in rural America.

The PMAs' policies have made service to rural America more affordable and created competition in the market which leads to lower rates for all consumers, not just those who receive federal power, and not just those in rural areas. Moreover, priority access to federal power was provided to entities that operated not for profit as to assure federal power would get through to consumers at cost. This alternative has served "as a yardstick for competition."

Consumer-owned private electric systems have faithfully honored their side of the partnership by repaying a major part of the original investment, with interest. For instance, in the

Northwest, the original Bonneville Dam and the Grand Coulee Dam have been completely paid off. For the Central Valley Project, power sales have repaid 70% of the Federal debt allocated to power, and will completely repay the power debt in the upcoming contract term.

We urge the Committee to reject proposals that will raise rates for millions of Americans, such as schemes to sell the PMAs or to change the rate structure from cost-based rates to so-called "market rates." On the issue of privatization, we share the concerns of both the Congressional Budget Office (CBO) and General Accounting Office (GAO) on the impacts of divesting the federal power program. The CBO noted in its 1997 report: *"Nevertheless, the prospect of selling power assets continues to raise concerns about future electricity prices, the environment and access to recreational resources. Some power consumers would likely face increases under new ownership."*

The 1997 GAO report titled Federal Power: Issues Related to the Divestiture of Federal Hydropower Resources identified a daunting host of complex issues related to PMA privatization, including irrigation, flood control, environmental protection, recreation, regulatory hurdles, cost impacts on PMA customers and likely revenues to the Treasury.

For these reasons, we believe that the privatization of the PMAs has little support in Congress. Recently, thirty-seven Senators wrote a letter to President Clinton stating that they oppose restructuring legislation that would privatize the PMAs. In addition, last year, when the Budget Committee produced a draft budget that proposed selling the PMAs, thirty-six Members of the Majority, including seven current Members of this Committee wrote Chairman (Don) Young and asked that he oppose such a plan.

It is clear that the federal government will and should remain in the electricity business. However, the federal power program can be improved and we want to work with Chairman Doolittle to find innovative ways for the customers to be more involved in the financing of these projects. These actions involve direct funding of maintenance and repairs from the PMAs' electricity revenues or from funds contributed by the power customers.

The results of GAO's most recent review of this issue lend considerable support for "off-budget" funding of operation, maintenance, rehabilitation and replacement activities. Delayed and unpredictable federal funding for maintenance and repairs has contributed to the decreased availability and reliability of the federal hydropower generating units. Failure to fund and perform maintenance and repairs in a timely fashion can lead to frequent and/or extended outages. These outages force the PMAs or their customers to purchase more expensive replacement power to satisfy their contractual commitments.

Supporters of off-budget or alternative financing believe that such funding allows repairs and improvements to be made more expeditiously and predictably than through the federal appropriations process.

Rural electric cooperatives also oppose efforts to charge "market rates" for PMA power. Proposals like the legislation (H.R. 1486) by Rep. Franks and Rep. Meehan to charge market rates for federal power have no base of support in this Congress. In fact H.R. 1486 has only

one cosponsor because no one wants to support legislation that will raise rates for millions of Americans.

The General Accounting Office has concluded that under a market rate scenario, many consumers could see large increases in their power bills. For instance, consumers in my home state of Oklahoma would pay about $22 more in their average monthly electricity bills according to the GAO.

For those who believe that charging market rate is an alternative for privatizing the PMAs, please note what the Congressional Research Service stated in their report in 1995 on market rate pricing for the PMA's:

"Since the 1930's (sic), it has been the policy of the federal government to market Federal power at cost, encouraging its use. As a result, an entire infrastructure has developed which has significant regional economic implications . . .For those whose economy and way of life are tied to this system, this market pricing alternative must be considered among the worst of the alternatives discussed in this report . . .it may also maximize the pain to the consumers affected by the change."

Electric cooperatives provide the consumer option that guarantees true competition in the electric utility industry. Any federal legislation that purports to enhance competition will include provisions to allow consumers to consider and choose this option. Any federal legislation that places regulatory, tax or operational encumbrances on cooperatives effectively removes this yardstick competition component from the mix. Any legislation that would remove the yardstick of the federal Power Marketing Administrations from the mix of wholesale power options would similarly remove an important consumer yardstick.

In closing, let me express the appreciation of electric cooperatives for the Committee's willingness to examine in some depth the issues involved in electric utility restructuring. The electric utility industry is the largest, most complex industry for which Congress has contemplated so-called deregulation. The immensity of the industry, not to mention the effect on every consumer in these United States, warrants careful and thorough dialogue with all concerned—especially consumers—before concepts are set into law.

Chairman Doolittle, I appreciate the opportunity to put the views of the NRECA membership before the Committee. I would be happy to answer any questions you might have.

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BIOGRAPHY OF GLENN ENGLISH
CHIEF EXECUTIVE OFFICER

In March 1994, Glenn English became the fourth chief executive officer of the National Rural Electric Cooperative Association (NRECA). As chief spokesman for the nation's 1,000 consumer-owned, cooperative electric utilities, he represents the national interests of electric cooperatives and their consumers before the United States Congress and Executive Branch federal agencies.

Foremost among the issues facing electric cooperatives today -- and the consumers and communities they serve -- is the debate surrounding the restructuring of the electric utility industry. English is a strong advocate for small-business and residential electric customers as lawmakers, regulators and other influentials attempt to make their mark on electric utility change at the state, regional and national level. He is a frequent speaker from the co-op and consumer perspective at meetings of business, industry, and consumer groups, as well as electric co-op and allied groups around the country.

Prior to assuming the NRECA post, English was elected by Oklahoma's 6th District to 10 terms in the U.S. House of Representatives; he was first elected in 1974. His leadership positions included chairmanship of the House Agriculture Subcommittee on Conservation, Credit, and Rural Development; and the House Government Operations Subcommittee on Government Information, Justice, and Agriculture.

Glenn and Jan English reside in Vienna, Virginia.

NRECA is the national service organization that represents the nation's 1,000 consumer-owned electric cooperatives, which provide electric service to 30 million people in 46 states. Visit NRECA's web site at www.nreca.org.

6/97

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In compliance with House Rule XI, clause (2g) of the Committee's rules the undersigned hereby declares that, since October 1, 1996, the National Rural Electric Cooperative Association has not received any federal grant, subgrant, contract, or subcontract relevant to the subject of the hearing on June 24, 1999 at which testimony is being presented on NRECA's behalf.

By: Stephan Petry

Stephan Petry
Legislative Director
Government Relations

National Rural Electric Cooperative Association
June 22, 1999

FEDERAL ENERGY REGULATORY COMMISSION JURISDICTION — Historically, the National Rural Electric Cooperative Association (NRECA) has opposed efforts to subject electric cooperatives to the jurisdiction of the Federal Energy Regulatory Commission (FERC) (under Federal Power Act (FPA) Sections 205 and 206, 16 U.S.C. 791a, et seq. by including them within the definition of "public utility" in Section 201(e) of the FPA). Electric cooperatives are owned and controlled by their customers so there is no conflict between shareholders and customers requiring governmental economic regulation.

Similarly, the federal agencies that provide reliable, low-cost electrical power are already regulated by Congressional oversight and are under the authority of the Secretary of Energy. Moreover, electric cooperatives were formed in response to th national need to extend electric service at the lowest possible cost to primarily rura areas under a program providing that federal governmental oversight would only b through the Rural Utilities Service (RUS). NRECA's position was confirmed in the Dairyland case, decided by the Federal Power Commission (FERC's predecessor) more than 30 years ago, which held that electric cooperative borrowers from the RUS are not "public utilities" as defined in Section 201(e) of the Federal Power Act.

Recently, restructuring of the electric industry, increased electric cooperative borrowing from non-governmental sources and efforts to gain competitive advantages have given rise to proposals for either reconsideration of the Dairyland case or enactment of new federal legislation subjecting RUS-borrower electric cooperatives, not-for-profit, consumer-owned utilities and federal power marketing agencies to full FERC jurisdiction under FPA Sections 205 and 206.

We believe that the historic position of NRECA opposing efforts to subject RUS-borrower electric cooperatives, involuntarily, to FERC jurisdiction under FPA Sections 205 and 206 continues to be good public policy. We support legislative efforts to exclude: (1) RUS borrower electric cooperatives; (2) not-for-profit, consumer-owned utilities and (3) federal power marketing agencies from FERC jurisdiction. (99-G-5)

Mr. DOOLITTLE. Thank you.

Our next witness is Mr. Donald Santa, vice president of LG&E Energy Corporation.

Mr. Santa.

STATEMENT OF DON SANTA, VICE PRESIDENT, LG&E ENERGY CORPORATION

Mr. SANTA. Good afternoon, Mr. Chairman, and Mr. Walden. On behalf of LG&E Energy Corp., thank you for the opportunity to testify today regarding the role of Federal Power Marketing Administrations in a restructured electric industry.

LG&E Energy is a diversified energy services holding company headquartered in Louisville, Kentucky. LG&E has been a leader in the competitive transformation on the electric industry and was among the earliest investor-owned utilities to support comprehensive Federal restructuring legislation.

LG&E's two regulated subsidiaries, Louisville Gas and Electric Company and Kentucky Utilities Company are within the Southeastern Power Administration's service territory. And the company has experience dealing with public power and Federal utilities in a variety of contexts.

In some cases, the LG&E companies supply public power with both generation and transmission services, and in other cases, the roles are reversed. In some cases, LG&E is a partner with public power, and in other cases, we are competitors. This is quite typical of how IOU's interact with public power. In my comments today, I will offer certain comments addressing both public power and the PMA's and then focus on PMA-specific issues.

The legal framework governing IOU's and public power affects each of these relationships I just referenced. Electric restructuring and the public policy promoting competition in the electric industry necessitate re-examining this legal framework. In particular, does this legal framework distort the market and frustrate the goal of competitive industry restructuring?

I will discuss this issue in three contexts. First, the rules governing access to transmission facilities owned and operated by public power and Federal utilities. Second, the rules governing public power and Federal utilities when they participate in competitive segments of the electric industry. And third, the fundamental question of the role of the Federal Government as a generator and marketer of electricity.

With respect to the first issue, public power and Federal utilities should be required to provide access to their transmission facilities under the same terms and conditions of service as investor-owned utilities. Transmission is the interstate highway system for commerce in electricity. Regardless of whether the transmission is owned by an IOU, public power, or a Federal utility, it is a monopoly function. And the detriments to competition from the exercise of market power in transmission are the same regardless of the ownership.

As Chairman Hoecker noted, the Energy Policy Act authorized the Commission to order non-jurisdictional utilities to provide transmission access on a case-specific basis. And in response to

Order 888 reciprocity conditions, a number of publicly-owned utilities have voluntarily filed open-access tariffs.

Still there is no effective substitute for the full scope of the Commission's Federal Power Act authority to regulate the rates and terms and conditions of transmission service under a common set of standards. To paraphrase Betsy Moler, the former chair of the FERC, open access does not work well on Swiss-cheese basis.

Admittedly, it is not as simple as just amending the Federal Power Act. In fairness to public power, the Internal Revenue Code must be amended to address the tax consequences of providing private parties with access to transmission facilities constructed using tax-exempt financing. There is no dispute regarding this basic point. The devil is in the details, however, and, as always, the level playing field is in the eye of the beholder.

Next, to the extent that public power and Federal utilities choose to compete in competitive segments of the electric market, they also should be subject to the same legal requirements as investor-owned utilities competing in the same markets. With regard to such activities, they should be subject to the same regulatory obligations, the antitrust laws should apply with equal force, and the tax-exempt status should not be permitted to distort the outcomes in competitive markets.

With respect to the Power Marketing Administrations, the fundamental question of the role of the Federal Government as a generator and marketer of electricity must be revisited. This necessarily raises the issue of whether the PMA's and Federal Power projects should either be privatized or fundamentally restructured.

Admittedly, this is a complicated and divisive issue fraught with political peril. Still, at a time when the electric power industry is undergoing a fundamental restructuring, and the New Deal era statutes that served as the basis for Federal regulation of that industry are being re-examined, the role of the Federal Government as a generator and marketer of electricity should be re-examined as well.

While I am not an expert in the laws governing the PMA's and the particulars of the public policy issues affecting the PMA's constituencies, I offer the following observations based on my experience with analogous issues in other contexts:

First, the facts about Federal power must be separated from the myths about Federal power. For example, Federal power's proponents frequently cite its role as a competitive benchmark or yardstick for investor-owned utilities. What are the facts?

GAO points out that the PMA's historic position as a low-cost power provider stems from a number of factors. These include the inherent low-cost of hydro-power relative to other generating resources, Federal financing at low interest rates, flexibility in the repayment of principal on the treasury portion of PMA's debt, the PMA's tax-exempt status, and operating budgets that seek to break even rather than earn a profit or return on investment. Few, if any, of these factors are grounded in sound management and efficient operation.

The validity of any benchmark comparison is further undermined by the fact that the PMA's rates do not cover all costs associated with the production, transmission, and sale of power. For example,

GAO has reported that SEPA's, SWAPA's, and WAPA's net cost to the treasury for the years 1992 through 1996 totaled about $1.5 billion because these PMA's rates did not recover all power-related costs.

Finally, even if one concedes that the benchmark concept for IOU's may have served some purpose in the past, one must question whether this concept has become an anachronism in an increasingly competitive market for the generation and sale of power.

My second observation is that the role of the Federal Government should be no greater than is needed to address legitimate needs that cannot be met adequately by the marketplace. To the extent there is a legitimate Federal interest to be served by intervening in the market, that intervention should be no greater than is necessary to address the problem. The fact that an extensive Federal intervention in the market for electricity may have been justified a half-century ago does not necessarily justify that same level of intervention today.

The goal of rural electrification has already been accomplished. And to the extent there remains a need to protect the rates of rural electric customers, it is hardly clear that the current program is very effective at achieving that goal.

For example, many of the current end-user recipients of PMA power are not rural customers. In fact, most rural customers are served by IOUs, and not by the PMAs and other preference customers. Therefore, I think as a threshold matter, the Committee should ask, is there still a legitimate Federal interest in protecting rural electric customers?

And even if the answer is yes, the Subcommittee should ask, is there a better way to target the Federal response to those who truly are in need and not just those who by the accident of history are within a preference customer-service territory?

Admittedly, because of the non-power uses of Federal water power projects and the legal obligations that attach to those uses, resolving the transition issues associated with Federal power will be daunting. This should not, however, deter the Subcommittee from asking and answering the threshold question of whether the Federal Government's historic role as a generator and marketer of electricity can be justified going forward.

In conclusion, let me commend the chairman and the Subcommittee for their interest in the role of PMA's in a restructured electric industry. As you no doubt appreciate, these are not easy issues. Still, they are important and timely questions in connection with providing a legal framework that encourages competitive electric markets.

Thank you for the opportunity to testify, and I am happy to respond to any questions the Subcommittee may have.

[The prepared statement of Mr. Santa follows:]

STATEMENT OF DONALD F. SANTA, JR., SENIOR VICE PRESIDENT, DEPUTY GENERAL COUNSEL, LG&E ENERGY CORP.

Good afternoon, Mr. Chainnan and Members of the Subcommittee. My name is Donald Santa, and I am the Senior Vice President, Deputy General Counsel of LG&E Energy Corp. Thank you for providing LG&E Energy Corp. with the opportunity to testify today regarding the role of Federal power marketing administrations ("PMAs") in a restructured electric industry.

I have been asked to address today, from the perspective of an investor-owned utility, the issues that restructuring creates for the electric power industry. More particularly, I have been asked to address the role of public power, and especially the PMAs, in a restructured industry and the public policy issues related to this segment of the industry.

LG&E Energy Corp.'s Perspective.

Let me begin by telling the Subcommittee about LG&E Energy Corp. and its perspective on electric restructuring. LG&E Energy is a diversified energy services holding company headquartered in Louisville, Kentucky. The company has businesses in power generation and project development, retail gas and electric utility services, and asset-based energy marketing. The company owns and operates two regulated utility companies, Louisville Gas and Electric Company and Kentucky Utilities Company. Together, these companies serve retail customers in the Commonwealth of Kentucky and in a five-county portion of the Commonwealth of Virginia. LG&E Energy owns equity in and operates non-utility powerplants in six states as well as Spain and owns interests in natural gas distribution companies in Argentina.

Over the past decade, LG&E Energy has transformed itself from a small, locally focused regulated utility company into a diversified energy services company. This transformation mirrors the changes that have occurred in the electric power industry over that same period.

LG&E Energy Corp. has been a leader in the competitive transformation of the electric power industry. LG&E was among the first companies to form an unregulated energy marketing affiliate and to open its transmission system to non-discriminatory third-party access. LG&E also was among the first investor-owned utilities to support comprehensive Federal restructuring legislation.

LG&E's two regulated utility subsidiaries are within the Southeastern Power Administration's service area, and the company has experience dealing with public power entities in a variety of contexts. For example, Kentucky Utilities Company is a wholesale requirements supplier to 11 municipal systems and one college in Kentucky. (As part of doing business with these customers, KU has dealt with issues concerning their entitlements to SEPA power.) Louisville Gas and Electric Company is a partner with the Indiana Municipal Energy Agency and the Illinois Municipal Power Agency in its Trimble County generating station. LG&E's Western Kentucky Energy Corp. subsidiary is leasing and operating the generating assets of Big Rivers Electric Corporation, a generation and transmission cooperative, and is selling power under contract to Big Rivers' four member distribution cooperatives. And, given the proximity of the Tennessee Valley Authority, the LG&E companies have experience in dealing with TVA as a power supplier and as a competitor in off-system sales markets, as a transmission provider, and in the context of territorial disputes with TVA and its member cooperatives.

Finally, let me add a note about my personal perspective. Prior to joining LG&E in 1997, I served for four years as a member of the Federal Energy Regulatory Commission. During that period, the Commission implemented Title VII (the electricity Title) of the Energy Policy Act of 1992, issued its landmark Order No. 888 open access rule and dealt with many issues of first impression in connection with electric restructuring.

A Sea Change in Industry Structure.

The domestic electric power industry has undergone a sea change in less than a decade. The combination of the market, technological innovation and the catalyst provided by Title VII of the Energy Policy Act have compelled an irreversible restructuring of the Nation's electric power industry. This restructuring currently is incomplete and has not occurred at a uniform pace across all regions and all segments of the industry. Still, there is no denying that the competition genie is out of the bottle.

While Title VII of the Energy Policy Act addressed only the wholesale power market, the message that Federal energy policy endorsed competition in the generation and sale of electricity—and non-discriminatory transmission access as a means to promote that competition—profoundly affected the mindset of the electric power industry. Once unleashed, market forces do not respect the line between Federal and state jurisdiction and the distinction between wholesale and retail customers. Beginning first in California and New England—and now spreading to other regions—individual states have begun opening their retail electricity markets to competition. At last count, a total of 21 states have authorized consumer choice for electricity. Not surprisingly, retail restructuring generally has occurred fastest in the states with high electricity rates and slowest in the states with low rates. Still, it is not

a stretch to predict that within the foreseeable future most, if not all, states will have made the transition to retail electric competition.

While many refer to the "deregulation" of the electric industry, in fact only some segments of the industry are being "deregulated" while other segments are being "reregulated." What is being "deregulated" are the segments and functions of the industry that are competitive. In particular, the generation and sale of electricity are being freed from traditional monopoly regulation. Also, functions such as metering and billing are being considered for deregulation. Meanwhile, the transmission and distribution segments of the industry—that is, the wires used to deliver electricity from the generator to the consumer—still exhibit the attributes of natural monopolies and are being "reregulated" on a stand-alone basis.

Retail restructuring is breaking down the longstanding vertically integrated, monopoly structure for electric utilities. As a result, there is no longer such a thing as a typical electric utility or even a typical model for an energy services company. Some companies, especially those in states that have not yet restructured their retail power markets, remain vertically integrated—that is, a single corporate entity provides generation, transmission and distribution services within a monopoly franchise service territory. Still, vertical integration is no longer the predominant model.

Increasingly, energy services companies are making strategic decisions regarding which segment—or segments—of the energy business they wish to focus their resources. Some companies, in many cases with the incentive to recover stranded costs, have sold their electric generating assets. The Edison Electric Institute estimates that by next year, approximately 25 percent of all fossil fuel and hydroelectric generation owned by investor-owned utilities will have been offered for sale.

These divesting companies are focusing their resources on other aspects of the business. Some will be pure "wires" companies operating the transmission and distribution networks within their service territories and perhaps consolidating with other such companies to realize efficiencies of scope and scale. Others will focus on marketing products directly to consumers. This can range from marketing the energy commodity, to providing energy services, to marketing non-energy network services such as telecommunications, Internet and home security.

For every seller of generating plants, there is, of course, a buyer. Some companies are acquiring the divested generating plants as part of a strategy to become regional, and in some cases national, generating companies. In addition, open access and competition have created tremendous interest in the construction of new, merchant generating plants. Merchant plants are powerplants constructed (or acquired) solely for the purpose of selling power into the competitive market. The companies acquiring divested generation and constructing merchant plants are putting shareholder dollars at risk. There is no guarantee that the cost of owning and operating such powerplants will be recovered in the competitive market. This is in stark contrast to the traditional regulated, cost-of-service model for the recovery of utility powerplant investment.

Furthermore, a whole new segment of the electric industry has emerged as part of restructuring. This is the energy marketer segment. The growth of this segment has been astounding. For example, in 1998 energy marketers sold 2.3 billion megawatt hours of electricity, compared to only 7.1 million megawatt hours in 1994. This explosion in power marketer volumes is solid evidence of the liquidity that is developing in electric power markets.

As has been widely reported, restructuring has resulted in a wave of consolidation within the energy industry. This consolidation began with a series of mergers between neighboring, vertically integrated utilities. It now, however, has spread to combinations that cut across industry segments and that have brought a series of new players to the industry. In two cases now pending before the regulators, utilities from the United Kingdom have applied for authorization to acquire domestic utilities. There also has been a whole series of "convergence" mergers where electric companies have acquired natural gas pipelines and local distribution companies. There also are several instances where energy marketing companies have begun to acquire established utility companies. In other words, the new entrants have begun acquiring some of the industry's traditional players. To use an analogy to some of the toys we used as children, it is as if the "tinker toys" or the "erector set" that comprised the traditional industry structure is being taken apart and re-assembled into a variety of interesting new strategic structures.

We also are seeing the beginnings of regional structures for the operation and management of the transmission grid. Given the physics of electric transmission, the regional scope of wholesale power markets, and the advantages in terms of efficiency and reliability, a compelling case can be made for regional operation and management of the grid. Beginning first with its Regional Transmission Group policy statement and continuing with the Independent System Operator (or "ISO")

principles adopted as part of the Order No. 888 open access rule, the FERC has encouraged voluntary efforts to establish regional structures for transmission. Most recently, the Commission issued a notice of proposed rulemaking providing even stronger impetus for regional transmission organizations (or "RTOs"). In the three years since Order No. 888, the Commission has authorized five ISOs. A competing regional structure, the independent transmission company (or "transco") has gained favor in some quarters, and the Commission currently has pending before it applications to authorize two transcos.

Completing the Legal Framework for Restructuring.

While the Energy Policy Act and subsequent actions by the FERC and the states have spurred electric restructuring, there remains a need for follow-up action by the Congress to remove impediments to a complete restructuring of the electric power industry. As noted earlier, LG&E Energy was an early proponent for comprehensive Federal restructuring legislation. Our preference would be a nationwide date certain for retail competition as the centerpiece of a Federal restructuring bill.

Still, should this not be possible, LG&E believes that there are a number of other positive steps that the Congress could take to promote an efficient restructuring of the electric power industry. Importantly, these steps address areas of Federal law that are beyond the authority of the states. Only action by the Congress can remove these impediments. In particular, Federal legislation should be enacted to enhance the competitiveness and efficiency of wholesale power markets and to ensure the reliability of the transmission grid.

First, the transition to competitive electric markets is being impeded by Federal laws that burden the industry with outdated legal obligations. The Public Utility Holding Company Act of 1935 should be repealed. The Congress also should repeal prospectively the mandatory purchase obligations under the Public Utility Regulatory Policies Act.

Second, FERC's authority to regulate interstate transmission should be enhanced. The Commission should be authorized to regulate all owners of interstate transmission facilities (i.e., municipals, cooperatives and Federal utilities, in addition to the investor-owned utilities currently regulated). It also should be authorized to order the owners of interstate transmission facilities to participate in RTOs and to establish mechanisms for enforcing national reliability standards.

The Role of Public Power and the Power Marketing Administrations.

As exemplified by my earlier comments about LG&E's experience with public power, investor-owned utilities interact with public power in a variety of contexts. In some cases, IOUs supply public power with both generation and transmission services and, in other cases, the roles are reversed. In some cases, IOUs are partners with public power and, in other cases, the two are competitors. The legal framework governing IOUs and public power affects each of these relationships.

Electric restructuring and the public policy promoting competition in the electric industry necessitate a re-examination of this legal framework. In particular, it must be asked whether this legal framework distorts the market and frustrates the goal of competitive industry restructuring. For purposes of discussion, this examination of the legal framework can be subdivided as follows:

- First, the rules governing access to transmission facilities owned and operated by public power and the Federal utilities;
- Second, the rules governing public power and Federal utilities when they participate in the competitive segments of the electric industry; and,
- Third, the fundamental question of the role of the Federal Government as a generator and marketer of electricity.

Transmission Access.

With respect to the first issue, public power should be required to provide access to its transmission facilities under that same terms and conditions of service as investor-owned utilities. Transmission is the interstate highway system for commerce in electricity. Regardless of whether transmission is owned by an IOU, public power or a Federal utility, it is a monopoly function. And the detriments to competition from the exercise of market power in transmission are the same regardless of ownership.

If the goal of Federal energy policy is greater competition in the generation and sale of electricity, open access to all parts of the highway system should be provided under the same terms and conditions. This becomes even more important as policy begins to focus on regional markets and the advantages of regional management and operation of the transmission grid. To paraphrase Betsy Moler, the former chair of the FERC, open access does not work well on a "swiss cheese" basis.

The Energy Policy Act authorized the Commission to order non-jurisdictional utilities to provide transmission access on a case-specific basis. And, in response to the Order No. 888 reciprocity conditions, a number of publicly-owned utilities have voluntarily filed open access tariffs with the FERC. Still, there is no effective substitute for the full scope of the Commission's Federal Power Act authority to regulate the rates, and terms and conditions of transmission service under a common set of standards.

Admittedly, it is not as simple as just amending the Federal Power Act. In fairness to public power, the Internal Revenue Code must be amended to address the tax consequences of providing private parties with access to transmission facilities constructed using tax exempt financing. There is no dispute regarding this basic point. The devil is in the details, however. And, as always, the "level playing field" is in the eye of the beholder.

Competitive Ventures.

Next, to the extent that public power chooses to compete in competitive segments of the electric power market, it also should be subject to the same legal requirements as investor-owned utilities competing in the same markets. With regard to such activities, public power should be subject to the same set of regulatory obligations; the antitrust laws should apply with equal force; and public power's tax-exempt status should not be permitted to distort the outcomes in competitive markets.

The Federal Government as a Generator and Marketer of Electricity.

With respect to the Power Marketing Administrations, the fundamental question of the role of the Federal Government as a generator and marketer of electricity must be re-examined. This necessarily raises the issue of whether the PMAs and Federal power projects either should be privatized or be fundamentally restructured.

Admittedly, this is a divisive issue fraught with political peril. I readily acknowledge the complications arising from the multiple purposes served by Federal water power projects, the potential rate implications for preference power customers and the concerns of the various constituencies with a stake in the PMAs as part of their regional economies. Still, at a time when the electric power industry is undergoing a fundamental restructuring and the New Deal era statutes that have served as the basis for Federal regulation of the industry are being re-examined, the role of the Federal Government as a generator and marketer of electricity should be re-examined as well.

While I am not an expert in the laws governing the PMAs and the particulars of the public policy issues affecting the PMAs' constituencies, I offer the following observations based on my experience in dealing with analogous issues in other contexts:

First, the facts about Federal power must be separated from the myths about Federal power. Already, the Subcommittee's record of hearings on this issue and the work done by the General Accounting Office at the Chairman's request have done much in this regard.

For example, Federal power's proponents frequently cite its role as a competitive "benchmark" or "yardstick" for investor-owned utilities. What are the facts?

GAO points out that the PMAs' historic position as low-cost power providers stems from a number of factors, few of which are grounded in sound management and efficient operation. These factors include "the inherent low cost of hydropower relative to other generating sources, Federal financing at relatively low interest rates, flexibility in repayment of principal on the Treasury portion of the PMAs' debt, the PMAs' tax exempt status, and operating budgets that seek to break even rather than earn a profit or return on investment." [1]

Even the PMAs question the validity of any comparison. In a prepared statement submitted to this Subcommittee in connection with its September 19, 1996, oversight hearing, J.M. Shafer, the Administrator of the Western Area Power Administration, stated: "I question the usefulness of comparing the PMAs against other, nonfederal utilities for the purposes of determining why PMA power costs are lower." [2]

The validity of any "benchmark" comparison is further undermined by the fact that the PMAs' power rates do not recover all of the costs associated with the pro-

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[1] *Federal Electric Power: Operating and Financial Status of DOE's Power Marketing Administrations* (GAO/RCED/AIMD-96-9FS, October 13, 1995).

[2] *Oversight Hearing on Accounting Practices for Federal Power Marketing Administrations Before the Subcomm. on Water and Power Resources of the House Committee on Resources*, 104th Cong. 104-101 (1996) (statement of J.M. Schaefer, Administrator, Western Area Power Administration).

duction, transmission and sale of power. GAO has reported that SEPA's, SWAPA's and WAPA's net cost to the Treasury for the years 1992 through 1996 totaled about $1.5 billion, because the PMAs' rates did not recover all power-related costs. While the PMAs generally were following applicable laws and regulations for the recovery of their costs, the fact that such costs were not recovered in their rates calls into question the worth of any comparison to the rates charged by investor-owned utilities.

Finally, even if one concedes that the concept of the PMAs as a "benchmark" or "yardstick" for IOUs may have served some purpose in the past, one must question whether this concept has become an anachronism in an increasingly competitive market for the generation and sale of power.

Another example of separating the facts from the myths about Federal power is the role of the PMAs in serving rural customers. The laudable goal of a Federal program to ensure that rural and small-town America received electric service has been accomplished. Furthermore, in many cases, the demographics and the economies of the areas served by the PMAs have changed dramatically over the intervening years. For example, GAO reports that over one half of the towns that preference customers reported serving are urban. Furthermore, PMA power is used to serve very affluent areas, including Aspen, Colorado and parts of Orange County, California.[3]

Yes, PMA power is used to serve many rural customers. PMA power is not used, however, to serve the majority of rural customers. The majority of rural customers are served by investor-owned utilities. According to data compiled by the Edison Electric Institute, almost 60 percent of Americans living in rural areas with fewer than 1,500 people are served by IOUs. Furthermore, IOUs serve almost 80 percent of Americans living in areas with populations between 1,500 and 2,500 people (*i.e.*, small-town America).

My second observation is that the role of the Federal Government should be no greater than is needed to address legitimate needs that cannot be met adequately by the marketplace. To the extent there is a legitimate Federal interest to be served by intervening in the market, the intervention should be no greater than is necessary to address the problem. The fact that an extensive Federal intervention in the market for electricity may have been justified a half century ago does not necessarily justify that same level of intervention today. And, if it is decided that such an intervention cannot be justified going forward, the needs of stakeholders that have relied on the historic policy should be dealt with as a transition issue rather than as a basis for preserving the status quo.

As already noted, the goal of rural electrification has been accomplished. And, to the extent there remains a need to protect the rates of rural electric customers, it is hardly clear that the current program is very effective at achieving that goal. As mentioned earlier, many of the current end-user recipients of PMA power are not rural customers. In fact, most rural customers are served by IOUs. Therefore, as a threshold matter, the Subcommittee should ask: Is there still a legitimate Federal interest in protecting rural electric customers? And, even if this question can be answered affirmatively, the Subcommittee should ask: Is there a better way to target the Federal response to those who truly are in need and not just those who by the accident of history are within a preference customer's service territory?

Clearly, if the Federal Government chooses to privatize or otherwise fundamentally restructure the PMAs, there will be legitimate stakeholder interests and transition issues that must be addressed. In this regard, the experience of the states in dealing with retail electric power restructuring is instructive. In each and every state that has chosen to restructure its retail power markets, there have been important transition issues. And, as part of the consensus building process that was necessary to forge broad support for restructuring, solutions were found for each of these issues.

For example, preference customers express concern that eliminating the PMAs will subject them to dramatically higher market rates for purchased power. While in some cases that might be true, it is not necessarily true across the board. In looking at this issue, GAO concluded that the results vary widely depending on the particular PMA and customer in question.[4] For the customers with a legitimate need, this can be addressed as a transition issue.

Admittedly, because of the non-power uses of Federal water power projects and the legal obligations that attach to such uses, resolving the transition issues associated with Federal power will be daunting. Still, the mere presence of such issues

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[3] *Federal Power: Regional Effects of Changes in PMAs' Rates* (GAO/RCED-99-15, November 16, 1998).

[4] *Federal Power: PMA Rate Impacts, by Service Area* (GAO/RCED-99-55, January 28, 1999).

should not deter the Subcommittee from asking and answering the threshold question of whether the Federal Government's historic role as a generator and marketer can be justified going forward.

In conclusion, let me commend the Chairman and the Subcommittee for their interest in the role of the PMAs in a restructured electric industry. As you no doubt appreciate, these are not easy issues. Still, these are important and timely questions in connection with providing a legal framework that encourages competitive electricity markets.

Thank you for the opportunity to testify today on behalf of LG&E Energy Corp. I am happy to respond to any questions from the Subcommittee.

SUPPLEMENTAL INFORMATION

Donald F. Santa, Jr.
Senior Vice President,
Deputy General Counsel
LG&E Energy Corp.
Louisville, KY 40202

Mr. Santa's statement addresses the issue of the role of public power, and especially the Power Marketing Administrations, in a restructured electric industry from the perspective of an investor-owned utility. The statement first describes electric industry restructuring in general and the steps needed to complete the legal framework for restructuring. The statement then focuses on how electric restructuring and the public policy goal of promoting competition in the electric industry necessitate re-examining the legal framework governing public power and the PMAs. The statement identifies three areas for re-examination: (1) the rules governing access to transmission facilities owned and operated by public power and Federal utilities; (2) the rules governing public power and Federal utilities when they participate in the competitive segments of the electric industry; and (3) the fundamental question of the role of the Federal Government as a generator and marketer of electricity.

Mr. DOOLITTLE. Thank you.

Our next witness is Wenona Hauter, director of Public Citizen's Critical Mass Energy Project.

Ms. Hauter.

STATEMENT OF WENONAH HAUTER, DIRECTOR, PUBLIC CITIZEN'S CRITICAL MASS ENERGY PROJECT

Ms. HAUTER. Mr. Chairman and members of the Subcommittee, I am Wenona Hauter, director of Public Citizen's Critical Mass Energy Project. And thank you for the opportunity to testify on behalf of Public Citizen.

Public Citizen was founded by Ralph Nader in 1971. It is a nonprofit research, lobbying, and litigation organization located in Washington, DC. We advocate for consumer protection and for government and for corporate accountability.

As the rules governing the electric industry are rewritten State by State, the debate over the role of the PMA's dramatizes the larger debate over deregulation. Who should really benefit? Is it residential consumers and rural consumers? Or should all the benefits flow to large industrial customers, investor-owned utilities, and Wall Street financial firms. Should the air and water that is so important for our families' health and well-being be an important consideration? To answer questions in relation to the PMA's, it is important to understand how utility regulation is unfolding across the Nation.

Ohio became the 23rd State to send a bill to the Governor yesterday. But only a handful of bills are actually being implemented. Unfortunately, while the stated goal of the changes to the electric industry is to break up the monopolies an create competition, that

is something we all support, the outcome of rewriting the laws governing the electric industry is turning out to be something quite different.

The process has been gamed at the State level as the incumbent utilities use their enormous power at State legislatures to rewrite the rules for their benefit. In many cases, the result will be in the long term the creation of unregulated monopolies.

These monopolies have even been granted billions of dollars in a bailout to pay them back for their uneconomic investments, leaving them in the enviable position of having free capital that is fueling the consolidation in the industry.

At the same time, the large industrial customers are getting their special deals, and the power marketers are winning the right to sell to them. Meanwhile, the residential and small-business consumers have been left unprotected from large price increases in the future after the legislated rate reductions have been sunset. With 60 percent of American families having an income of below $30,000, the price of fuel cells is going to have to come way down before everyone has a fuel cell in their basement.

There is no competition for residential customers in States that have begun implementing their bills, California, Massachusetts, and Rhode Island. At the same time, we see unprecedented consolidation in the industry and we see air emissions already beginning to rise because coal-power is becoming the cheapest option.

Utilities are purchasing coal plants at above book value. While no supports fuel cells more than we do at Public Citizen, we think it is going to be a long time before these utilities close down these coal plants that they are purchasing today.

The PMA's have the opportunity to play a unique role in protecting consumers in a deregulated marketplace. Because the deregulated electricity market is likely to have insufficient competition, the PMA's and the consumer-owned utilities, both the municipals and rural electric cooperatives, will provide yardstick for the fair price of electricity.

Restraining the sale of PMA electricity would remove this benchmark function of the PMA's and their preferred customers. This would be especially damaging to consumers at a time when their strong influence is needed to prevent cartel-like behavior and other forms of market domination and abuse within regional power pools.

The PMA's and consumer-owned utilities provide for corporate diversity among the many players who sell and buy electricity. They emphasize customer service rather than corporate profit.

Transmission is another area where the PMA's can play a valuable role in the future. Three of the four PMA's own a significant amount of transmission lines and facilities. These Federal PMA's could serve as the backbone for three non-profit, publicly-owned transmission companies. This would ensure fair electricity markets, increase reliability, increase transmission access, reduce regulation, reduce bureaucracy, eliminate cross subsidies, and eliminate affiliate abuses at the hands of the investor-owned utility companies. At the very least, the PMA's, with their large network of transmission lines and substations provide stabilization to the volatility that we already see in some markets where auctions of wholesale electricity are taking place.

Now, because we believe that the PMA's do serve an important function, especially for the future, we are pleased to see that the attempts to privatize them or to sell federally-owned dams have subsided, but we also oppose backdoor privatization efforts. We view the provisions in the Franks-Meehan legislation, which forced the PMA's to sell electricity at so-called market-based prices, as being unfair to millions of consumers living in the 33 States that the PMA's serve. It is also a sly way of forcing the PMA's to charge a higher price for electricity in an attempt to bring on their demise.

The term "market-based" is not defined in the legislation, and in this case, it is being used pejoratively to imply that some undefined subsidy exists. Now there are some utility plants that generate power below current market rates, including FERC-licensed hydropower projects owned by private utilities in the Northeast and elsewhere.

Forcing any power plant to sell at some undefined rates could needlessly raise costs for consumers. The PMA's should continue providing cost-based power. This will be especially important in the deregulated environment where we can already see the vast advantages large consumers are having over residential and small-business consumers. It is going to be especially true of rural and inner-city consumers, who there will be little competition to serve.

We do not believe that the provision in H.R. 1486 mandating that revenues from electricity sales be diverted to the treasury for deficit reduction is reasonable, either. It is inappropriate to tax power users to reduce our Federal deficit, when far more money could be saved by closing loopholes and giveaways and other forms of corporate welfare.

However, we do believe that it is appropriate for PMA's to include in the cost of power mitigation strategies that deal with damage to fish, wildlife, and rivers. The PMA's—and, for that matter, the investor-owned utilities—must become responsible stewards of our natural environment. Dams are a major culprit of the degradation of our Nation's fresh-water resources. Their effects are far-reaching and ecologically complex.

Dams are concrete and impenetrable, the antithesis of a river's dynamic and fluid nature. Dams turn rivers into quiet stagnant reservoirs. They reduce or regulate water flows, while changing temperature levels that wildlife have evolved to depend on. Through diversion for power production, dams block water needed for healthy river systems and wreak havoc on the river's biological life. The most widely-recognized environmental effect of dams is their effect on fish; for instance, bringing those Northwest salmon runs to the brink of extinction.

Deregulation is putting added stress on rivers that have hydro facilities because the demand for low-priced power places a higher value on peak-hour electricity. And hydro facilities can stop or start generation in a matter of minutes to respond to demand. This is one of the reasons for the pressures from IOU's to privatize dams and the PMA's: Access to cheap, peak power means large profit.

Obviously, this is one of the reasons we oppose privatizing dams or PMA's. Rivers are owned by no one, nor should they be. They are a public resource. Private companies are driven by growth

needs, and they are not economically rewarded for being good environmental stewards.

On the other hand, the PMA's should be responsive to the residents of their region and be good stewards. There are practical, affordable measures based on sound science that can bring back fish and restore the health of rivers. The costs of these measures should be included in the cost-based services provided to the residents of the regions.

In conclusion, the PMA's should play an important role in the future as the electric industry continues to go through changes, from providing a yardstick on how consumers are doing in the deregulated market and contributing to the diversity of utility ownership through creating an example for environmental stewardship.

Thank you very much.

[The prepared statement of Ms. Hauter follows:]

STATEMENT OF WENONAH HAUTER, DIRECTOR, PUBLIC CITIZEN'S CRITICAL MASS ENERGY PROJECT

Summary

Public Citizen, founded by Ralph Nader in 1971, is a non-profit research, lobbying, and litigation organization based in Washington, DC. Public Citizen advocates for consumer protection and for government and corporate accountability, and is supported by over 150,000 members throughout the United States. The Critical Mass Energy Project, of which I am director, is Public Citizen's energy policy arm, working to decrease reliance on nuclear and fossil fuels and to promote safe, affordable and environmentally-sound energy alternatives.

As the rules governing the electric industry are rewritten, the debate over the role of the Federal power marketing administrations (PMAs) dramatizes the larger debate over deregulation of the industry. Who should really benefit? Should it be residential consumers? What about rural consumers? What about the environment? Or, will all the benefits flow to investor-owned utilities (IOUs), Wall Street firms, and large industrial customers?

To answer these questions in relation to the PMAs, it is necessary to understand: (1) how electric utility deregulation is unfolding across the nation; (2) the unique role PMAs play in providing a yardstick for the cost of electricity for consumers in the changing electricity market; (3) the benefits and costs to consumers in the regions served by the PMAs; (4) the appropriate role for transmission systems owned by the PMAs; (5) and the serious threat to the environment of privatizing or changing the role of the PMAs.

Public Citizen is pleased that attempts to privatize the PMAs or to sell federally-owned dams have subsided. For the record, we do not favor the privatization of the PMAs, the attempts to force PMAs to sell electricity at so-called market-based prices, or the related attempt to sell federally-owned dams. The Federal hydro plants and the PMAs that sell their power are part of projects that serve many other purposes, including irrigation, flood control, navigation, municipal water supply, recreation, and fish recovery and protection. Turning over dams or PMAs to utilities and others whose sole interest is to maximize power revenues threatens these other purposes.

The dramatic changes in the electric industry provide an opportunity for the PMAs to continue serving their historic roles of providing low-cost power to rural areas of the United States as well as serving as a yardstick for measuring how and if consumers are benefiting from deregulation.

United States House of Representatives
Committee on Resources,
Subcommittee on Water and Power
Role of the Power Marketing Administrations In a Restructured Electric Industry

Testimony of Wenonah Hauter, Director,
Public Citizen's Critical Mass Energy Project

June 24, 1999

Introduction

Thank you for the opportunity to testify on behalf of Public Citizen on issues related to the federal Power Marketing Administrations and their role in a changing electric power industry.

Public Citizen, founded by Ralph Nader in 1971, is a non-profit research, lobbying, and litigation organization based in Washington, DC. Public Citizen advocates for consumer protection and for government and corporate accountability, and is supported by over 150,000 members throughout the United States. The Critical Mass Energy Project, of which I am director, is Public Citizen's energy policy arm, working to decrease reliance on nuclear and fossil fuels and to promote safe, affordable and environmentally-sound energy alternatives.

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To answer these questions in relation to the PMAs, it is necessary to understand: (1) how electric utility deregulation is unfolding across the nation; (2) the unique role PMAs play in providing a yardstick for the cost of electricity for consumers in the changing electricity market; (3) the benefits and costs to consumers in the regions served by the PMAs; (4) the appropriate role for transmission systems owned by the PMAs; (5) and the serious threat to the environment of privatizing or changing the role of the PMAs.

Public Citizen is pleased that attempts to privatize the PMAs or to sell federally-owned dams have subsided. For the record, we do not favor the privatization of the PMAs, the attempts to force PMAs to sell electricity at so-called market-based prices, or the related attempt to sell federally-owned dams. The federal hydro plants and the PMAs that sell their power are part of

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Background on Deregulation of the Electric Power Industry

Few industries affect as many people as the electric power industry; almost all Americans depend on safe, reliable, and affordable electricity for their homes and businesses. Yet deregulation laws and regulations passed in 23 states are jeopardizing the safety, reliability, and the affordability of electricity services, especially for residential consumers and small businesses. Those most at risk are low-income consumers and consumers living in expensive-to-serve areas, such as rural communities. Small consumers and businesses have been put at risk because the deals cut to pass legislation have given most of the benefits to the utilities and to large industrial consumers of electricity.

For example, in all states that have enacted electricity legislation, ratepayers are being forced to bail out electric utilities for their bad investments in nuclear power plants and other expensive assets. In total, ratepayers throughout the United States may end up handing the utilities over $200 billion, making electricity deregulation one of the largest consumer rip-offs of all time.

Investor-owned utilities are using the bailout money to acquire other utilities and power plants. These acquisitions are eliminating potential competitors even though restructuring proponents argue deregulation will lead to increased competition. At the current rate of consolidation, we will be left with only a handful of large corporations offering electricity services. Deregulation, for the most part, is not creating competition; it is creating unregulated monopolies.

Many power suppliers selling electricity in these states refuse to offer electricity to residential and small business consumers because they cannot make sufficient profits, or because the incumbent utilities have skewed the new laws in their favor. Thus, residential consumers have little choice other than to continue purchasing electricity from their unregulated local utility.

For example, in California less than one percent of all consumers (including large industrial customers) have chosen a new electricity provider. Massachusetts and Rhode Island have no competitors for residential and small business consumers. Pennsylvania has experienced some competition because the public utility commission artificially set the price of electricity and provided consumers with what is called a "shopping credit." The number of customers to change suppliers appears to have peaked at less than 20 percent, while the remaining 80 percent have

ignored the marketplace. As predicted, only the most savvy consumers can benefit from this complex system. We expect the same problems to occur in other states.

As another example, a draft report from the Department of Agriculture, which was leaked to the press in March 1999, concludes that consumers in rural areas and in low-cost states may see higher electricity prices as a result of deregulation.[1] Other studies have made similar conclusions.[2]

Deregulation is making it harder for the industry to provide reliable electricity service—keeping the lights on, so to speak. In the past, utilities worked with neighboring systems to ensure that adequate supplies of power were available at all times. Now, utilities are competing with neighboring utilities and are less likely to work together to maintain the reliability of the electric system. Consumers may see more frequent power outages as a result of these ill-conceived policies.

Few industries have as large an impact on workers as the electric power industry. In 1990 there were more than 500,000 electric utility workers. At the end of 1997, there were about 370,000 workers, a decrease of 130,000 workers or about 25 percent. Not only have these layoffs affected the well-being of displaced workers, the layoffs mean fewer high-paying jobs in many communities. The layoffs also affect the safety and reliability of electric service: fewer workers mean longer power outages and less attention to safety.

No other industry has as large an impact on the environment as the electric power industry, which produces one-third of the nation's carbon dioxide pollution, the leading cause of global warming; two-thirds of sulfur dioxide pollution, the leading cause of acid rain; one-third of smog-forming nitrogen oxides; one-quarter of toxic mercury emissions; and nearly 95 percent of the radioactive waste produced by power plants, medical laboratories, and the military.

All of the pollution created by the electric power industry greatly affects the health and well-being of the nation's people. Coal-fired power plants provide nearly 60 percent of the nation's electricity, yet most of these plants are over 30 years old and produce pollution anywhere from two to 13 times greater than what new plants would produce. Many of these pollutants damage a person's respiratory system, with young children, the elderly, and people with respiratory disease at particular risk.

Deregulation is giving power plant owners the incentive to run their power plants as long as possible, especially plants that produce electricity cheaply, such as old, dirty, coal-fired power plants.

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[1] United States Department of Agriculture, *Electric Utility Deregulation: Rural Effects*, Washington, DC: Office of the Chief Economist, USDA, January 1999.

[2] See, for example, Energy Information Administration, *Electricity Prices in a Competitive Environment*, Washington, DC, August 1997; Consumers Union and Consumer Federation of America, *The Residential Ratepayer Economics of Electric Utility Restructuring*, Washington, DC, July 1998; Competition Policy Institute, *Navigating a Course to Competition*, Washington, DC, April 1997.

A Unique Role for Protecting Consumers

The mission of the federal power marketing administrations (PMAs) is to sell to consumers power generated at federally-owned multipurpose water projects at the lowest possible rates consistent with sound business principles. Currently, four PMAs sell about six percent of the nation's electricity to consumers in 33 states. The four PMAs include Bonneville Power Administration, Southeastern Power Administration, Southwestern Power Administration, and Western Area Power Administration (Alaska Power Administration was sold in 1995).

The federal hydro plants that provide electricity to the PMAs are part of river projects that serve many other purposes, including irrigation, flood control, navigation, municipal water supply, recreation, and fish recovery and protection.

Because the deregulated electricity market is likely to have insufficient competition, the PMAs and consumer-owned utilities (municipal utilities and rural electric cooperatives) play an important role in providing a yardstick for the fair price of electricity. They also provide for corporate diversity among the many players who sell and buy electricity—PMAs, municipal utilities, and rural electric cooperatives are non-profit corporations that emphasize customer service instead of corporate profits.

In the past we have seen how important it is to have PMAs and the Tennessee Valley Authority (TVA) in the marketplace. When TVA was established in 1933, it reduced retail rates of electricity by 60 percent below rates offered by neighboring investor-owned utilities.

Bonneville Power Administration, the first federal power marketing administration, was created in 1937 to help market and transmit electricity generated by the multipurpose river projects owned by the Bureau of Reclamation and the Corps of Engineers. BPA's projects were built in the rural Northwest, providing electricity to hundreds and thousands of rural Americans for the first time, even though most cities had been electrified by the turn of the century. Additional PMAs (Alaska, Southeastern, Southwestern, and Western Area) came into existence during the 1940s, 50s, and 60s.

Through the "preference clause," which is a feature of all federal utilities, electricity from federal river projects is made available first to municipal and cooperative utilities—excess power is then sold to investor-owned utilities or directly to private companies. By providing municipal and cooperative utilities with low-cost hydro power, municipal utilities and rural electric cooperatives electrified the rural areas of the country and, through competition, lowered the rates charged by investor-owned utilities.

In addition to putting downward pressure on rates charged by investor-owned utilities, federal utilities have also uncovered anticompetitive businesses practices. During the 1950s, TVA used a closed-envelope process when requesting bids from suppliers of generating equipment. TVA officials noticed that all the bids came in at the same price. This obvious case of price-fixing was brought to the attention of then Attorney General Robert Kennedy who pursued the issue and eventually took the case to court. Top management of some of the suppliers, including officials from General Electric and Westinghouse, went to jail, while fines were levied

on the companies. Without TVA's presence, this egregious price-fixing would have continued to have a negative effect on the IOUs and their consumers.[3]

Any attempt to sell the PMAs or to restrain the sale of PMA electricity would remove their yardstick functions at a critical time. As electricity markets are deregulated, the presence of the PMAs (and their preferred customers the municipal and cooperative utilities) offer a strong influence in preventing cartel-like behavior and other forms of market domination and abuse within regional power pools.

Benefits and Costs to the Customers of PMAs

Attempts to force the PMAs to use so-called market-based rates, which is a provision in H.R. 1486 introduced by Representatives Bob Franks (R-NJ) and Marty Meehan (D-Mass.), is a back-door method of privatization. Forcing the PMAs to raise their rates to undefined "market-based rates" is unfair to millions of consumers living in the states they serve, and it could bring about the demise of the agencies.

The term market-based rates is not defined in the Franks-Meehan legislation. Also, in this case it is being used pejoratively to imply that some undefined subsidy exists. For example, there are some utility plants that generate power below current market rates, including FERC-licensed hydropower projects owned by private utilities in the Northeast and elsewhere. Forcing any power plant to sell at some undefined rate could needlessly raise costs for consumers.

The PMAs should continue providing cost-based power to consumer-owned power companies (municipals and rural cooperatives) and residential consumers of investor-owned utilities. This will be especially important in a deregulated environment, where large industrial consumers have vast advantages over residential and small business consumers. It is just and fair for the residents of a region to benefit from their natural resources.

Given that the financial health of these agencies is important, the PMAs should collect revenues that cover their costs and obligations. In the subscription[4] process that will take place as the contracts for power expire with the PMAs, it is important to capture sufficient revenues as the options for power are negotiated.

Another provision of H.R. 1486 would require the PMAs to implement "full cost recovery," even though by law PMAs already recover the full costs of producing electricity. Indeed, power customers of the multi-purpose river projects already cover additional costs associated with non-power activities like flood control, irrigation, and fish restoration.

Another disturbing provision of H.R. 1486 mandates that revenues from electricity sales be diverted to the Treasury for deficit reduction. It is inappropriate to tax power users to reduce the deficit when far more money could be saved by closing loopholes and give-aways and other forms of corporate welfare.

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[3] Herling, John. *The Great Price Conspiracy*. Washington, DC: Robert B. Luce Publisher, 1962.
[4] Term given to describe the negotiation of power contracts between PMAs and customers.

Nevertheless, we believe that it is appropriate for PMAs to acquire new non-hydro renewable resources, and that the costs of these new non-hydro renewables should be recovered in power rates. The same is true of mitigation strategies that deal with the damage to fish, wildlife, and rivers. The costs of addressing these problems should be included in the price of PMA electricity, as proposed in H.R. 1486.

Role for PMA Transmission Systems

Transmission is another area where the PMAs can play a valuable role in the future. Three of the four PMAs own a significant amount of transmission lines and facilities. Bonneville Power Administration (BPA) owns 14,800 circuit miles of transmission lines and 400 substations, the Western Area Power Administration (WAPA) maintains an existing infrastructure of 16,800 circuit miles of transmission lines and 257 substations, and Southwestern Power Administration owns 1,380 miles of high-voltage transmission lines, and 24 substations. BPA is recognized in the region as an excellent caretaker for their transmission system.[5]

These federal PMAs could serve as the backbone for three non-profit, publicly-owned transmission companies, or "public transcos." Each public transco would cover the regions served by the Eastern Interconnection, the Western Interconnection, and the Texas Interconnection (the nation's transmission system is literally and physically divided into three such systems or "interconnections").

Three non-profit public transcos would ensure fair electricity markets, increase reliability, increase transmission access, reduce regulation, reduce bureaucracy, eliminate cross-subsidies, and eliminate affiliate abuse at the hands of utility holding companies.

The three public transcos should be responsible for providing non-discriminatory open access to the nation's three separate transmission networks at affordable rates approved by the Federal Energy Regulatory Commission.

Duties and responsibilities of each public transco should include scheduling and dispatching power plants; maintaining the transmission system; planning, building, and owning transmission system improvements; developing and implementing standards for system reliability; and arranging for the provision of ancillary services.

For the first time in the history of the electric power industry, all of the transmission workers, facilities, and responsibilities (including reliability) of each major transmission interconnection would be under one non-profit roof. This would ensure that employees are making decisions for the good of the system, instead of the owners of for-profit companies. The directors and employees of each public transco should not have any financial ties or interests with any electric company.

A public transco would remove the regulated assets, services, and staff of all utilities (including the PMAs) into a separate, stand-alone, non-profit company that would have no

[5] Conversation with Sarah Patton and Nancy Hirsch of the Northwest Energy Coalition, Seattle, Washington,206/621-0094.

affiliates and no subsidiaries. Cross-subsidies between regulated and non-regulated subsidiaries would disappear, along with the need for expensive, intrusive, and ineffective regulation of affiliate transactions. A structural remedy to holding company abuses would finally be in place decades after it was formally proposed by President Franklin Roosevelt in March 1935.

A public transco would have plenty of incentive to maximize the efficiency of the transmission system. Consumers want access to the least expensive power available, yet they also want to minimize transmission system investments, because they are costly, damaging to the environment, damaging to property values, and potentially dangerous. This tension between access to low cost power and resistance to new transmission facilities will ensure that a public transco would build only those facilities that serve the public interest.

The PMAs could easily serve as the backbone and as role models in creating these non-profit public transmission companies.

Issues for the Environment

The PMAs should not be privatized directly or by schemes to force them into an untenable situation, where their power is not affordable, but they must become responsible stewards of the environment. The benefits of cost-efficient hydropower flow to the region where they are located, but at the same time the costs of protecting the natural resources, including fish and wildlife restoration, should be incurred by the residents of the region.

While the power from falling water is one of the oldest and most easily accessible energy sources, there are grave environmental impacts associated with dams.

Hydroelectric dams may be either run-of-river, in which the amount of electricity generated is determined by the volume of water flowing in the stream, or in a storage facility, in which large reservoirs of water allow operators to control the time and quantity of electricity production depending on the impounded volume of water.

Dams are a major culprit of the degradation of the nation's freshwater resources.[6] The effects of hydroelectric dams on rivers are far-reaching and ecologically complex. Dams—concrete and impenetrable—are the antithesis of a river's nature, in which dynamism and fluidity are defining characteristics.

For example, plants and fish depend on flows that supply nutrients and minerals. Riverine species have evolved to rely on a river's seasonal changes in flow volumes and temperatures. Migrating fish such as salmon and striped bass depend on open waterways to reach spawning beds kept healthy by river flows. Floodplains, which historically provided rich farmlands, owe their soil fertility to flooding rivers, which deposit minerals and nutrients carried from their mountain origins.

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[6] For descriptions and quantification of environmental damage caused by hydroelectric projects, see David M. Gillialan and Thomas C. Brown, *Instream Flow Protection: Seeking a Balance in Western Water Use*, Washington, DC: Island Press, 1997 and John D. Echeverria, Pope Barrow, and Richard Roos-Collins, Rivers at Risk: *The Concerned Citizens' Guide to Hydropower*, Washington, DC: Island Press, 1989.

Dams change all that, by turning rivers into quiet, stagnant reservoirs, or otherwise reducing and regulating flows while changing natural temperature levels that wildlife have evolved to depend on. Additionally, dams trap sediments and minerals, emptying the water of these life-giving nutrients. These drastic, physical changes effectively take the life out of a river, and wreak havoc on the river's biological life, from insects and plankton, to fish, birds, and mammals.

Through diversion for power production, dams block water needed for healthy river systems. Stretches below dams are often left without any water at all. By withholding and then releasing water to generate power for peak demand periods, dams cause downstream stretches to alternate between no water and powerful surges that erode soil and vegetation, and flood or strand wildlife.

Perhaps the most widely recognized environmental effects of dams are their deadly impacts on fish. Dams are primarily responsible for pushing the famed East Coast and Pacific Northwest salmon runs to the brink of extinction. Not only are fish physically blocked by dams from making their upstream migrations, young salmon and other species are killed by the thousands trying to make their way downstream to the ocean when they are drawn into and cut up by power turbines.

Warmer water temperatures both in streams and in reservoirs can lead to fish population declines. Cold water fisheries, especially native trout populations, have been decimated on streams warmed by decreased instream flows. Higher-temperature water tends to favor non-native fish that eat or out-compete native fish like salmon and trout. In addition, dams decrease oxygen levels in reservoir waters. Periodically, this can lead to large fish kills in impoundments as well as when the oxygen-deprived water is released from the dam.

Deregulation is putting added stress on rivers with hydro facilities because the demand is for electricity suppliers to keep costs as low as possible. The deregulated power markets are also placing a greater value on "peak hour" electricity, creating incentives that damage rivers. Hydro plants have the prized advantage of stopping or starting generation in a matter of minutes, thus allowing them the advantage of responding quickly to increases in demand. This peaking power operation creates many more environmental impacts than run-of-river operations. Flows downstream of peak-power dams are held back during periods of low demand, and then surge to very high levels during peak demand hours, regardless of the needs of the river.

Obviously, this is one of the reasons we oppose privatizing dams or the PMAs. Rivers are owned by no one, nor should they be, since they are without question a public resource. If dams or PMAs had private ownership, there would be even more pressure for squeezing all of the profit possible out of hydro operations. Also, private companies must always be looking for "growth" opportunities, and are not rewarded economically for good stewardship of natural resources. Instead, they are rewarded for growing and making profits for shareholders.

However, even under public ownership, there are increasing environmental challenges. Deregulation removes incentives for the PMAs to incur costs for environmental protection and

then to recover them from their customers. The PMAs are under the same economic pressures, especially with their opponents attempting to move them towards so-called market-based rates. Because the PMAs are trying to minimize their costs, there is reluctance to invest in greatly needed environmental measures.

Fish, wildlife, and indeed, the rivers, are an irreplaceable part of our natural, cultural, and economic heritage. For instance, the loss of salmon in the Northwest is a tragedy that would have negative impacts on the Northwest region and arguably for the nation as a whole. Restoring the biological integrity of watersheds is essential to preserving our natural environment for our children and grandchildren.

The past record of environmental failures can be reversed if major, but affordable, changes are made to both the federal hydro system itself and to river management. The PMAs play an important role in this endeavor. Just as the benefits of low-cost power should go to the region, the cost for protecting the region's natural resources should be paid for in the cost of electricity by the people who receive the benefit of inexpensive electricity. As mentioned before, we believe that it is appropriate for PMAs to charge their customers for the cost of mitigation strategies that deal with the damage to fish, wildlife, and rivers. The costs of addressing these problems should be included in the price of PMA electricity, as proposed in H.R. 1486.

Practical, affordable measures exist that can bring back fish and restore the health of rivers. These measures are based on sound science and are broadly supported. Some examples are:

- the setting of standards for river flows, water quality, impacts on animals and the watershed, and protection of cultural resources;
- the phasing out of juvenile fish transportation—barging and trucking of fish;
- the use of spill as the primary means for juvenile fish passage;
- the use of juvenile and adult fish passage systems at all dams which mimic natural passage to the fullest extent possible;
- the application to privately-owned dams of the standards that protect federally controlled dams.

Thank you for your consideration of these comments, and I would be happy to answer your questions.

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Mr. DOOLITTLE. Thank you.

Our final witness is Victor S. Rezendes, director of energy and resources and science issues with the U.S. General Accounting Office.

Mr. Rezendes, welcome again.

STATEMENT OF VICTOR S. REZENDES, DIRECTOR, ENERGY, RESOURCES, AND SCIENCE ISSUES; RESOURCES, COMMUNITY AND DEVELOPMENT DIVISION, U.S. GENERAL ACCOUNTING OFFICE

Mr. REZENDES. Thank you, Mr. Chairman. It is a pleasure to be here today to discuss the PMAs' role in the restructured electricity industry.

I have identified five broad goals of the electricity restructuring that we think have impact on the PMAs. The first major goal of deregulation is encouraging price competition, including removing practices that treat potential competitors inconsistently and providing customers with lower electricity prices. As the market moves from a regulated to a more deregulated retail environment, it may be necessary to determine whether more consistent treatment of power providers is warranted.

For example, we have reported that, although PMAs are generally required to recover all costs, favorable financing terms, the lack of specific requirements to recover certain costs, have resulted in the net cost to the Federal Government of over a half a billion dollars each year. In part, because the PMAs sell power generated almost exclusively from hydropower, are not required to earn a profit and do not fully recover the government's costs in their rates, they are generally able to sell power more cheaply than other providers. Also, some electricity suppliers, such as investor-owned utilities, are required to pay Federal, State, and local taxes, but PMAs do not.

The second broad goal relates to protecting the environment. Because the electric industry is a major source of air pollution, a relevant question is whether the existing body of environmental law can accommodate change or whether restructuring legislation should have an environmental component to ensure compatibility with environmental values.

Some are concerned that competitive markets may result in increased emissions of pollutants because lower prices resultant from restructuring would increase electricity purchases and, therefore, increase generation an emissions. And, as a result, older polluting coal-fired generating facilities, which are generally exempt from the Clean Air's Act New Source Emission Standards, would be used more extensively. While the generation mix is likely to change, currently less than 2 percent of the PMAs' power comes from coal-fired plants. However, over 50 percent of TVA's power comes from these plants.

PMA hydropower is a clean, domestic, renewable source of electricity. However, hydropower facilities have significant impacts on surrounding areas, especially fish and wildlife.

The third goal relates to balancing the equity among stakeholders. As the industry moves to restructured environment, some costs that were included in the traditional regulated structure may not be recoverable in competitive rates.

Similarly, in terms of equity, concerns the issue whether PMA rates should be at market rates. If PMAs were authorized to charge market rates for power, slightly more than two-thirds of the present customers would experience a relatively small or no rate increase, increases of less than one-half of 1 percent per kilowatt.

Another issue affecting future price of PMA power is the reliability of Federal generating assets. In March, we reported that the Bureau's and the Corps' hydro-power plants are generally less reliable in generating electricity than non-Federal hydro-plants. We concluded that these agencies were unable to obtain funding for maintenance and repairs as needed, and, therefore, delayed repairs. These delays caused frequent extended outages and inconsistent plant performances.

The fourth broad goal of restructuring is maintaining the reliability of the interstate transmission grid. An issue that directly relates to the PMAs is the maintenance of reserves that may be called upon to meet planned or unforeseen outages by power providers. As we recently reported, hydro-power's inherent flexibility in meeting different levels of demand creates an opportunity for hydro-power to play a significant role in meeting demand during peak periods.

Finally, the last broad goal is promoting deregulation by redefined Federal roles, such as the Federal regulatory agencies. While restructuring has focused largely on deregulating the retained markets, some segments of the electric industry may face new or increased regulation.

Recent transmission policies have dealt with the concerns of market power and ownership and control of transmission facilities. For example, the PMAs transmission rates and facilities may have to come under new Federal regulation.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Rezendes follows:]

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The Role of the Power Marketing Administrations in a Restructured Electricity Industry

Statement of Victor S. Rezendes, Director, Energy,
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GAO/T-RCED/AIMD-99-229

Mr. Chairman and Members of the Subcommittee:

We are here today to discuss the role of the federal power marketing administrations (PMAs) in a restructured electricity industry. As we near the close of the first electrified century, vast opportunities face the electricity industry as we proceed into restructured, more competitive markets. Over the last 20 years, competition has been replacing regulation in major sectors of the U.S. economy, including transportation, natural gas, and telecommunications. As we enter the next millennium, new emerging opportunities of a competitive marketplace challenge the electricity industry. As this restructuring proceeds, we must consider how the existing federal system of generating, transmitting, and marketing electricity is managed.

Our statement today is primarily based on the body of PMA work that we have completed for this Subcommittee over the last 4 years. We also discuss our reports concerning the Tennessee Valley Authority (TVA) because they relate closely to the PMA reports. On the basis of our review of the issues, we have identified several broad goals of the effort to restructure the electricity industry—goals that apply to both the private sector and government, including the PMAs. We will also discuss the role of the PMAs in this changing electricity industry.

In summary, Mr. Chairman, our principal observations are the following:

–We have identified several broad goals of the electric industry's restructuring based on the various policymakers' and industry experts' opinions. Today, we will discuss five of these goals that we believe particularly affect the PMAs: (1) encouraging competition for retail consumers, (2) protecting the environment, (3) balancing equity among stakeholders, (4) maintaining the reliability of the transmission grid, and (5) promoting deregulation by redefining federal roles. We will now summarize each goal and discuss its applicability to the PMAs.

–One major goal of deregulating the retail electricity market is encouraging retail price competition. Removing practices that treat potential competitors inconsistently and providing customers with lower electricity prices are two major considerations. The PMAs are generally able to sell power more cheaply than other providers in part because they sell electricity generated almost exclusively by hydropower and because some of the government's costs are

not recovered through the PMAs' rates. We estimated net financing costs attributable to the PMAs to be about $585 million in fiscal year 1996. In addition, unlike the investor-owned utilities, the PMAs are not required to earn a profit. The PMAs and TVA also have competitive advantages in financing, taxes, and regulatory oversight.

--Protecting the environment is the second broad goal. Because the electricity industry is a major source of air pollution, the debate over restructuring includes the question of how changes in how electricity is generated could affect the environment. Concern exists that competitive markets may result in increased emissions of pollutants from the burning of fossil fuels, such as coal. Although the mix of sources generating electricity may change, currently, over 50 percent of TVA's power is generated from coal, whereas less than 2 percent of the PMAs' power is generated from coal. The PMAs' hydropower, which is about 93 percent of the PMAs' total power, may offer potential environmental advantages over other electricity sources because it is a clean, domestic, and renewable source of energy. However, hydropower facilities can have significant impacts on fish and wildlife habitats.

--Balancing equity among stakeholders is the third broad goal. Legislation has been proposed to require the PMAs and TVA to sell their power at market rates. As we discussed in recent reports, the Congress has the option of requiring the PMAs to sell their power at market rates. This would better ensure the full recovery of the appropriated and other debt of about $22 billion through the PMAs' power sales. This would also lead to more efficient management of the taxpayers' assets. This debt includes the costs of building and operating the federal electric power network as well as billions of dollars in irrigation-related debt. Such proposals would benefit federal taxpayers by better ensuring the full recovery of debt through the PMAs' rates. One aspect that will require careful consideration is balancing the competing interests of various groups of stakeholders—ratepayers, customers, investors, and taxpayers. Yet, the PMAs are faced with the risk that the federal investment in hydropower will not be recovered if power generated by federal plants ultimately proves to be too unreliable or costly to be competitive.

--The fourth broad goal of restructuring is maintaining the reliability of the interstate transmission grid. An issue that directly relates to the PMAs is the maintenance of reserves that can be called upon to meet planned or unforeseen outages by power providers. As we recently

reported, hydropower's inherent flexibility in meeting different levels of demand creates an opportunity for hydropower to play a significant role in meeting demand during peak periods.

--Finally, the last broad goal is promoting deregulation by redefining federal roles, such as those of federal regulatory agencies. While restructuring has focused largely on deregulating the retail market, some segments of the electricity industry may face new or increased regulations to address market power and consumer protection issues. Recent transmission policies have dealt with the concerns of market power in the ownership and control of transmission facilities. For example, the PMAs' transmission rates and facilities may come under new federal regulation.

Background

In 1997, residential, commercial, and industrial consumers spent about $215 billion on electricity, making the market for electricity larger than the markets for telecommunications, trucking, or airline transportation services. Over the last 20 years, competition has been replacing regulation in major sectors of the U.S. economy, including transportation, natural gas, and telecommunications. New legislation and technological changes have created a climate for change in traditional electricity markets at both the wholesale and retail levels. Through the Energy Policy Act of 1992 and subsequent rulings by the Federal Energy Regulatory Commission (FERC), the federal government has encouraged competition in the wholesale electricity market. At the retail level, the administration estimates that competition will result in annual savings of $20 billion for consumers and $2 billion for the government. Whereas transmission and distribution will remain largely regulated and noncompetitive, the retail market offers great potential for competition. Since 1992, 22 states—representing about 60 percent of the U.S. population–have issued comprehensive deregulation orders or enacted restructuring legislation. Most of the remaining states have the matter under active consideration. The extent to which the federal government should participate in fostering retail competition has yet to be decided.

The federal government–the nation's largest single producer of electric power–generated nearly 10 percent of the nation's electricity in 1998. Since the New Deal, the federal government has established water projects that—in addition to promoting agriculture, flood control, navigation, and other activities—produce electric power. The federal government has played an important role by selling electricity to rural America. The Department of the Interior's Bureau of

Reclamation (Bureau) and the Department of the Army's Corps of Engineers (Corps) generate electricity at hydropower plants located at major federal water projects. The Department of Energy's (DOE) four PMAs,[1] along with TVA, generally sell this electricity in wholesale markets mostly to publicly and cooperatively owned utilities that, in turn, sell the electricity to retail consumers. Although not a PMA, TVA is a federal corporation and the nation's largest single producer of power. As restructuring moves forward, the Congress, states, and the industry are considering how the existing federal power system fits into the new environment and how it is managed. Against the backdrop of restructuring, the Congress is compelled to reconsider the policies used to maintain and manage the federal hydropower system.

Mr. Chairman, we have identified several broad goals of electric industry restructuring. We will now discuss the five goals that particularly affect the PMAs, including their relationship to the PMAs in this changing environment.

Encouraging Retail Competition

One major goal of deregulating the retail electricity market is encouraging retail price competition. Several objectives support the achievement of this goal. These include removing practices that treat potential competitors inconsistently and providing customers with lower electricity prices. Both of these objectives apply to both the private sector and government, including the PMAs. We will now discuss these objectives.

The PMAs and TVA Have Competitive Advantages in Financing, Taxes, and Regulatory Oversight

As the market moves from a regulated to a more deregulated retail environment, it may be necessary to determine whether more consistent treatment of power providers is warranted. Favorable financing for power-related facilities gives some federally assisted potential competitors advantages in the marketplace. For example, we have reported that although the PMAs are generally required to recover all costs, favorable financing terms[2] and the lack of

[1]DOE's PMAs are the Bonneville Power Administration, Southeastern Power Administration, Southwestern Power Administration, and Western Area Power Administration.

[2]"Favorable financing" includes a requirement to repay the highest interest-bearing appropriated debt first and interest rates on appropriated debt that, before 1983, were below market rates. We use the term "appropriated debt" throughout this testimony because the PMAs are required to set their electricity rates at levels that will recover appropriations used for capital improvements

specific requirements to recover certain costs have resulted in net costs to the federal government each year.[3] Net costs include net financing costs, pension and post retirement health benefits, and certain construction costs. We estimated net financing costs attributable to the PMAs to be about $585 million in fiscal year 1996. In part because the PMAs sell power generated almost exclusively from hydropower, are not required to earn a profit, and do not fully recover the government's costs in their rates, they are generally able to sell power more cheaply than other providers. We reported in January that DOE's Southeastern Power Administration (Southeastern), Southwestern Power Administration (Southwestern), and the Western Area Power Administration (Western) sold wholesale electricity to their preference customers,[4] from 1990 through 1995, at average rates from 40 to 50 percent below the rates that nonfederal utilities charged.[5] In the recent past, the rates of the Bonneville Power Administration (Bonneville) were at or above market rates. We also reported that many rural electric cooperatives--many of which are PMA preference customers--have had access to favorable financing (either direct loans or guarantees) through the U.S. Department of Agriculture's Rural Utilities Service (RUS). Such financing did not fully reflect the government's net financing costs. These costs were about $874 million in fiscal year 1996. Such financing would give these cooperatives a competitive advantage if they were to compete outside their traditional service areas against private competitors that do not have access to such favorable interest rates.

Another example of favorable financing concerns federal entities' bond sales as compared with the criteria applied to other borrowers. Bond-rating services give the higher rating to bonds issued by Bonneville and TVA because they are federal entities. For example, Standard & Poors' credit rating agency's "AAA" rating for TVA bonds is not based on a default, risk-based analysis. Instead, the bonds are generally viewed as government-sponsored debt. The resulting lower bond interest rate gives these entities a competitive advantage.

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by the Bureau and the Corps. These reimbursable appropriations are not considered to be lending by the Treasury. Pursuant to legislation passed in 1996, Bonneville's appropriated debt was refinanced to approximate Treasury's current borrowing costs.

[3]See Power Marketing Administrations: Cost Recovery, Financing, and Comparison to Nonfederal Utilities (GAO/AIMD-96-145, Sept. 19, 1996), Federal Electricity Activities: The Federal Government's Net Cost and Potential for Future Losses (GAO/AIMD-97-110 and 110A, Sept. 19, 1997), and Federal Power: Options for Selected Power Marketing Administrations' Role in a Changing Electricity Industry (GAO/RCED-98-43, Mar. 6, 1998).

[4]Preference customers include cooperatives and public bodies, such as municipal utilities, irrigation districts, and military installations.

[5]See Federal Power: PMA Rate Impacts, by Service Area (GAO/RCED-99-55, Jan. 28, 1999).

Also, some electricity suppliers, such as investor-owned utilities, are required to pay federal, state, and local taxes, but the PMAs and TVA generally are not subject to them.[6] Municipalities and other public power suppliers may also have favorable tax treatment that would give them a competitive advantage if they were to compete outside their traditional service areas. To address this possibility, legislation has been proposed, for example, that would preclude government-owned utilities from using tax-exempt financing to fund facilities if they choose to compete outside their traditional service areas.

Several inconsistencies also exist in the area of regulatory oversight. First, investor-owned utilities are subject to full review and approval processes by FERC, while TVA is exempt from regulation by FERC. TVA's rates are reviewed only by its board of directors. All rates established by the PMAs are subject to a limited review by FERC. Second, by law, the transmission facilities of Bonneville, Southwestern, and Western, as well as TVA and some other smaller utilities, are exempt from FERC's jurisdiction of transmission rates and open access.[7] And third, as a federal instrumentality, TVA is not subject to antitrust legislation as are private-sector firms. Some TVA critics assert that this exemption, together with the agency's total discretion in rate setting, allows TVA to control the market by engaging in predatory pricing and other anticompetitive activity.

Protecting the Environment

Because the electricity industry is a major source of air pollution, the debate over restructuring includes how changes in how the industry generates electricity could affect the environment. A relevant question is whether the existing body of environmental law and regulation can accommodate future changes in electricity generation and transmission or whether restructuring legislation should have an environmental component to help ensure that further developments in the electricity industry will be compatible with environmental values.

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[6]TVA was expected to pay about $264 million in payments in lieu of taxes in fiscal year 1998.

[7]FERC Order 888 requires utilities under FERC's jurisdiction to file nondiscriminatory open access transmission tariffs and offer comparable transmission services to eligible third parties. Order 889 requires utilities to develop same-time information systems to make simultaneous transmission information available to those entities that are selling power. Bonneville, Southwestern, and Western have voluntarily filed open-access transmission service tariffs with FERC.

Fossil-Fuel Generation

The combustion of fossil fuels, which account for about two-thirds of the nation's electricity generation, results in airborne emissions. These emissions include pollutants that directly pose risks to human health and welfare, such as sulfur oxides, nitrogen oxides, particulate matter, carbon monoxide, and certain heavy metals. Other emissions may pose indirect risks; for example, carbon dioxide may contribute to global warming. Of the fossil fuel-fired steam generators, coal-fired facilities contribute a large share of these gases. The Environmental Protection Agency currently regulates these emissions, except carbon dioxide. Any increase in fossil fuel-fired generation may increase carbon dioxide emissions. Some are concerned that competitive markets may result in increased generation and emissions of pollutants because (1) lower prices resulting from restructuring would increase electricity purchases and, as a result, (2) older, more polluting coal-fired generating facilities, which are generally exempt from the Clean Air Act's new source emissions standards, will be used more extensively.[8] Although the generation mix may change, currently, less than 2 percent of the PMAs' power and over 50 percent of TVA's power are generated from coal.

To address these concerns, some have suggested various measures, in addition to the continued enforcement of environmental standards under the Clean Air Act, to counteract the anticipated increase in the emissions of air pollutants after deregulation. These include (1) requiring a renewable portfolio standard, which directs utilities to have a specific percentage of their generation power originating from a renewable (non-air-polluting) source of energy; (2) implementing pollution output controls, which focus on limiting emissions without encouraging any particular kind of generation-type; and (3) ratifying the Kyoto Protocol, which sets targets for greenhouse gas emissions for developed nations.

Yet, disagreements exist on how to control pollution. It is argued that a mandate for a renewable portfolio standard, for example, is contradictory to the spirit of deregulation. Instead, some industry representatives have testified before the Congress that the federal government should establish emissions standards for all generation facilities. These standards would be output-based, not favor a particular fuel source, and allow market forces to determine the most efficient means to develop cleaner coal plants and other technologies, including

renewable generation. Any environmental component of restructuring legislation, it is argued, should be market based and incentive driven because in the long run, competition will favor cleaner and more efficient facilities and accelerate the turnover and upgrading of existing power plants.

At least nine states have already adopted renewable portfolio standards that require that specific percentages of the electricity sold in their state be generated from renewable sources. Such sources include geothermal, hydro, solar, and wind energy. The administration's proposed renewable portfolio standard would require electricity suppliers to eventually provide 7.5 percent of their electricity sales from nonhydroelectric renewable technologies. The Congress is considering whether to promote fuel diversity by adopting such a federal renewable portfolio standard. A related issue is whether to prescribe specific technologies or fuel sources as renewable energy. Including hydropower in a renewable portfolio standard would make achieving the proposed standard easier and less costly for electricity suppliers. It would also increase the importance of the nation's federal hydropower assets if they could be tapped to meet any new requirements.

Non-fossil-fuel Generation

The PMAs may offer potential advantages in the generation of non-fossil-fuel generation. PMA hydropower, comprising about 93 percent of their generation, is a clean, domestic, renewable source of electricity. Hydropower plants provide inexpensive electricity and produce no pollution. However, hydropower facilities can have significant impacts on the surrounding area –especially fish migration patterns and wildlife habitats. To mitigate adverse impacts, dams should maintain a steady stream flow and be designed or retrofitted with fish ladders and fishways to help fish migrate. As we reported in September 1997, Bonneville spends hundreds of millions of dollars annually to mitigate damage to fish and wildlife caused by the federal government's hydropower operations. This sum could increase considerably in the future, according to Bonneville. Such costs may compromise Bonneville's ability to compete in a restructured environment. Conversely, TVA relies heavily on coal generation.

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[8]While plants constructed before August 1971 are exempt, facilities that are modified are subject to the standards.

Restructuring also has environmental implications for nuclear energy. As we reported in May, industry experts expect that the deregulation and restructuring of the electricity industry could result in the early retirement of from 9 to 40 percent of the nation's nuclear power plants. Such plants may not be competitive with other sources of electricity, in part, because of the high construction costs resulting in part from changes in the Nuclear Regulatory Commission's health and safety regulations issued after the Three Mile Island accident. Additionally, the cost of decommissioning–the disposal of radioactive and other wastes so that the sites comply with environmental standards–is negatively affecting the competitiveness of some nuclear power plants. As we reported in May, competition could result in economic pressures that will affect the availability of adequate funds for decommissioning and affect how utilities address maintenance and safety in nuclear power plants.[9] Because of restructuring, owners may retire some of the nuclear plants before sufficient decommissioning funds have been accumulated. In fact, 19 of 26 nuclear plants identified as likely to be retired early are owned, in whole or in part, by licensees that have not accumulated sufficient decommissioning funds. More broadly, we also found that nearly half of all the utilities with nuclear plant licenses were not accumulating sufficient reserves through 1997 to pay for decommissioning costs. For example, we reported that TVA had seriously underfunded its decommissioning reserves under certain scenarios. Whereas nearly 20 percent of TVA's power is nuclear, less than 4 percent of the PMAs' power is nuclear.

Balancing Equity Among Stakeholders

One aspect of restructuring that will require careful consideration is balancing the competing interests of various groups of stakeholders that will be affected by the restructuring process. Stakeholders include ratepayers of investor-owned utilities, preference customers of the PMAs, investors who own stock issued by investor-owned utilities or bonds issued by Bonneville and TVA, and federal taxpayers. We will mention these stakeholders as we discuss the recovery of stranded costs for generation assets and the relationship of the PMAs' rates to market rates.

Recovery of Stranded Costs for Generation Assets

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[9]See Nuclear Regulation: Better Oversight Needed to Ensure Accumulation of Funds to Decommission Nuclear Power Plants (GAO/RCED-99-75, May 3, 1999).

As the industry moves to a restructured environment, some costs that were incurred under the traditional regulated structure may not be recoverable under competitive power rates. These are generally referred to as stranded costs, and estimates of their total value have ranged from $10 billion to $500 billion. State legislatures and others have defined the specific components of stranded costs differently. Stranded costs may include power plants that are rendered uneconomical by restructuring. Nuclear plants with high fixed costs, such as decommissioning costs, may be particularly vulnerable. Stranded costs may also include long-term, high-cost power supply contracts mandated by federal legislation.[10] To date, states have been responsible for deciding the extent to which utilities can attempt to recover stranded costs for generation. To the extent that stranded costs are not fully recovered, investors and possibly federal taxpayers must make up the difference and suffer the financial consequences. To the extent that customers are not allowed to benefit immediately and fully from reduced retail rates while stranded costs are being recovered, ratepayers suffer from higher rates. Using their discretion, individual states have allowed for varying degrees of stranded cost recovery. The administration's restructuring proposal provides general support for utilities' recovery of stranded costs. Also, the proposal provides for imposing mandatory transmission fees to ensure the recovery of the power and any other costs assigned for recovery through the PMAs' and TVA's power rates.

A second issue regarding stranded costs that involves federal taxpayers as stakeholders is the recovery of loans or the cost of loan guarantees made by the Rural Utilities Service. These were provided for rural electric cooperatives, many of which are PMA preference customers. To the extent that retail competition may be allowed in electric cooperatives' service areas, the repayment by the cooperatives of over $32 billion in federal direct or guaranteed loans is increasingly placed at risk. In March 1998, we testified that RUS had written off about $1.5 billion in loans and that RUS questioned the prospects of full repayment of another $10.5 billion in loans.[11] We also reported that outstanding loans to borrowers that were currently considered viable by RUS may become stressed in the future because of high costs and competitive or

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[10]The Public Utility Regulatory Policies Act of 1978 requires utilities to buy power offered to them by certain suppliers at rates equal to a utility's cost of providing its own generating capacity. In many cases, such rates are now well above current market costs.

[11]See Rural Utilities Service: Risk Assessment for the Electric Loan Portfolio (GAO/T-AIMD-98-123, Mar. 30, 1998).

regulatory pressures. We concluded that the federal government will probably incur losses on some of these loans in the future.

A third issue concerning stranded costs–the adequacy of accumulating decommissioning reserves–has already been mentioned. From an equity viewpoint, arguments can be made that reserves, when inadequate, should be funded by current ratepayers, future ratepayers, investors, or possibly federal taxpayers.

Market Rates Exceed PMA Rates

On a national scale, the administration estimates that, on average, a typical family of four would save $232 annually on electricity purchases and the reduced costs of other goods and services if the administration's restructuring plan were implemented. The federal government would also benefit from retail competition. Using various scenarios, we estimated that the federal government could expect cumulative savings in its electricity bills of from $600 million to $6.5 billion from 1998 to 2015 because of retail competition.[12] However, although several states have already mandated varying rate reductions in their restructuring plans, not all customers in all states would see price reductions from nationwide retail competition. Residential customers in some states that currently have electricity rates below the national average may see their rates rise, according to several studies. For example, DOE estimates that electricity rates averaged across all customer classes would actually increase somewhat in Montana, Oregon, and Washington State under the administration's restructuring proposal.

The PMAs are currently required to set their power rates at the lowest possible level consistent with sound business principles. They generally follow applicable laws and regulations regarding the recovery of costs. We have reported that the PMAs' rates have generally been lower than the market rates. If the PMAs were authorized to charge market rates for power in conjunction with federal restructuring legislation, some preference customers who now purchase power from the PMAs at rates that are less than those available from other sources would see their rates increase. As we recently reported, slightly more than two-thirds of the preference customers, which are located in varying portions of 29 states, that purchased power directly from

[12]See Federal Electricity: Retail Competition Could Create Government Savings (GAO/RCED-97-244, Sept. 30, 1997).

Southeastern, Southwestern, and Western would experience relatively small or no rate increases—increases of one-half cent per kilowatthour or less—if those PMAs charged market rates.[13] As we reported, the Congress has the option of requiring the PMAs to sell their power at market rates to better ensure full recovery of the appropriated and other debt[14] that is recoverable through the PMAs' power sales.[15] This debt totaled about $22 billion at the end of fiscal year 1997 and included nearly $2.5 billion in irrigation costs that are to be recovered through the PMA's power sales.[16] This option would likely also lead to more efficient management of the taxpayers' assets.

Another issue affecting the future price of PMA power is the reliability of federal generating assets. In March, we reported that the Bureau's and the Corps' hydropower plants are generally less reliable in generating electricity than nonfederal hydropower plants. We concluded that these agencies were unable to obtain funding for maintenance and repairs as needed and therefore delayed repairs. These delays caused frequent, extended outages and inconsistent plant performance. For example, at the Bureau's Shasta plant in California, the need to repair the generating units was identified in 1983. However, funding did not become available until 1995, when the customers provided advanced funding, and, according to a Bureau official, repairs will not be completed until 2003. The uncertainty of the federal planning and budget processes to provide timely and predictable funding for maintaining and repairing the federal power assets may be seen as evidence that the Bureau and the Corps cannot provide electricity as efficiently as the nonfederal sector. Although PMA power has been generally priced less than other electricity, as wholesale markets become more competitive, the PMAs' customers will have more suppliers from which to buy electricity. As nonfederal electricity rates decline in competitive markets, a portion of the PMAs' debt of about $22 billion may be at risk of nonrecovery if the market for PMA power is diminished.

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[13]See GAO/RCED-99-55, Federal Power: Regional Effects of Changes in PMAs' Rates (GAO/RCED-99-15, Nov.16, 1998). To estimate potential rate changes, we calculated how much, in cents per kilowatthour, each customer paid, on average, for power purchased from (1) all sources, including the PMAs, and (2) sources other than the PMAs, including the wholesale market, in 1995. Then, we took the difference between the two, considering the latter to be the market rate.

[14]"Other debt" is primarily debt for certain irrigation facilities and nonfederal nuclear power plants.

[15]See GAO/AIMD-97-110 and 110A and GAO/RCED-98-43.

[16]This total does not include any portion of TVA's debt. TVA's outstanding debt totaled nearly $26 billion, as of March 31, 1998.

Maintaining the Interstate Grid's Reliability

The reliability of the high-voltage transmission system has been the responsibility of the North American Electric Reliability Council (NERC), a not-for-profit entity with voluntary membership from all segments of the electricity industry. NERC reports that the existing system for setting and encouraging compliance with the industry's reliability standards is not sustainable in a new environment where power flows on the grid are changing, the number of transactions is increasing dramatically, and new types of business entities are using the transmission system in ways that have not previously been used. NERC believes that mandatory reliability standards are needed. It also believes that the Congress should authorize a new, independent self-regulating reliability organization with oversight by FERC, a position largely supported by the administration.

Another aspect of reliability that is changing under restructuring is the control or dispatching of power over the transmission lines. An emerging patchwork of regional electric transmission grids, often working at cross purposes, threatens the system's reliability and it is time for federal regulators to address the problem, according to a survey of state regulators completed in March 1999.[17] The survey also reported that uncertainty over the future of transmission management is harming the competitive position of utilities in regions where the issue is unresolved. The problem arose with the implementation of FERC Order 888. Since that time, FERC has encouraged the creation of new, regional transmission groups, such as integrated system operators that would be responsible for ensuring that loads match resources available to the system. These operators are not to be controlled by the power generators. Currently, FERC is strongly encouraging, but not requiring, owners of transmission facilities to participate in geographically broad transmission organizations. According to FERC, these organizations are expected to improve the efficiencies of transmission grid management by adopting better pricing and congestion management, improving the grid's reliability, removing remaining opportunities for discriminatory transmission practices, improving market performance, and facilitating lighter-handed regulation. In May, FERC issued a notice of proposed rulemaking that seeks comments on proposed minimum characteristics and functions for the regional transmission organizations. Its impact on the PMAs is unclear. As an example, Bonneville has explored

[17] Crossed Wires, Neil Palmer & Associates and The Terra Group.

participating in a regional transmission group in the Northwest but may need clear legal authority to join. The administration's proposal would provide such clarity.

FERC currently has authority over most of the nation's interstate power grid. But about one-third of the integrated grid is not under FERC's jurisdiction with regard to mandatory open transmission access. For example, over 30,000 miles of transmission lines owned by Bonneville, Southwestern, and Western, as well as 17,000 miles owned by TVA, are not under FERC's jurisdiction. To maximize the economic benefits of restructuring, some proposals would extend FERC's authority to include all of the nation's transmission facilities in the lower 48 states.

The restructured environment also creates uncertainty regarding access to investment capital for new or upgraded transmission capacity. The building of high-voltage transmission facilities is being delayed at a time when the need for additional capacity grows in some areas, according to an April 1999 report on transmission restructuring.[18] For-profit entities may be needed to provide capital if other entities are unwilling or unable to provide enough capital for new or upgraded facilities. On the other hand, a restructured market may reduce the need for new transmission lines by using, for example, distributed generation and cogeneration,[19] that would reduce the need to transmit power and that are supported under the administration's restructuring plan.

On a more technical note, reliability encompasses the maintenance of reserves that can be called upon to meet planned and unforeseen outages by power providers. The decisions on how to provide for standby reserves in a restructured environment have not been finalized. Of particular relevance for today's hearing is what role the federal government's hydroelectric facilities could play in providing reserves in the restructured market. As we noted in a March 1999 report on the maintenance and repair of federal hydropower plants, hydropower's inherent flexibility in meeting different levels of demand translates into the significant role that hydropower may play in meeting demand during peak periods and providing such services as

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[18]Credit Implications of the ISO-Transco Debate, Duff & Phelps Credit Rating Co.(April 1999).

[19]Distributed generation systems include fuel cells, solar cells, and small turbines, which supply power closer to consumers than a central generation station. Cogeneration systems produce electricity and another form of energy, such as heat or steam, using the same fuel source.

maintaining reserves.[20] Depending on the actions taken by federal and state regulators in the near future, a separate market for such services as maintaining reserves is beginning to develop, and utilities with hydropower could capture a market niche and take the opportunity to earn additional revenues.

Promoting Deregulation by Redefining Federal Roles

While restructuring has focused largely on the generation sector of the electricity industry, some segments of the industry may face new or increased regulations to address market power and consumer protection issues. For example, the PMAs' transmission rates and facilities may come under new federal regulations. We will now briefly discuss the possible new roles of some federal agencies in a restructured electricity industry.

Transmission

FERC recently testified to the Congress that legislation on transmission issues is needed to ensure the full development of competition. The agency recommends (1) bringing all transmission facilities in the lower 48 states within its open access transmission rules, (2) clarifying its authority to promote regional management of the transmission grid through regional transmission organizations, and (3) establishing a fair and effective program to protect the reliability of bulk power.

FERC's open access transmission policies address the concern of market power related to the ownership and control of transmission facilities. Fair and open access to reliable transmission service is essential to competition in power markets. In 1992, the Congress broadened FERC's authority to direct transmission service on a case-by-case basis. Subsequently, FERC has prohibited, through regulatory orders, vertically integrated utilities from discriminating against their competitors by limiting or denying access to their transmission facilities. The administration's restructuring plan would place Bonneville, Southwestern, and Western under FERC's authority to review proposed transmission rates under its "just and reasonable" and "not unduly discriminatory" standard.

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[20]See GAO/RCED-99-63.

FERC has suggested that regional transmission organizations, such as independent system operators and independent for-profit companies, would address barriers to competition by eliminating bias in transmission operations and allowing the efficient and reliable operation and planning of the transmission grid. The administration's bill would authorize FERC to require transmitting utilities to transfer operational control of transmission facilities to a regional system operator to facilitate competition. Bonneville, Southwestern, and Western would be required to participate in the regional transmission organizations, if required by FERC.

Mergers and Acquisitions

FERC believes that it should continue to consider market power issues in reviewing applications for mergers or other asset acquisitions. Last month, FERC testified that that the Congress should expand its jurisdiction over the transfers of generation facilities. Currently, FERC can review a transaction involving a public utility only when it involves other facilities over which it has jurisdiction, such as transmission facilities or contracts for wholesale sales. However, transactions involving only generation assets do not necessarily fall under FERC's jurisdiction even though the concentration of generation assets may directly affect wholesale competition. FERC also testified that the Congress should give it explicit, direct jurisdiction over mergers of public utility holding companies--a role historically held by the Securities and Exchange Commission (SEC).

The Public Utility Holding Company Act was enacted in 1935 to break up the large trusts that controlled the nation's electric and gas distribution networks. An important feature of the 1935 Act was that it authorized SEC to break up the massive interstate holding companies, which it regulates, and require them to divest their holdings until each became a single consolidated system serving a specific geographic area. The 1935 Act also permitted holding companies to engage only in business that was essential and appropriate for the operation of a single integrated utility. This latter restriction eliminated the participation of nonutilities in wholesale electric power sales. The law contained a provision that all holding companies had to register with SEC, which was authorized to supervise and regulate the holding company system.

Last month, SEC testified that the Congress should repeal the 1935 Act conditionally. According to SEC, although portions of the 1935 Act largely duplicate other existing regulation and controls

imposed by the market, a need to protect consumers continues. Specifically, SEC called for added flexibility and authority for FERC to engage in more extensive regulation and oversee transactions among affiliates in holding company systems.

The mandatory purchase provision of the Public Utility Regulatory Policies Act of 1978 was partly intended to foster the commercialization of renewable energy by requiring utilities to purchase power from cogenerators and renewable energy facilities. However, the 1978 Act, in some cases, resulted in high prices to consumers because some of the mandatory contracts were based on forecasts of high fuel prices, according to the Congressional Budget Office[21] and others. These factors rendered the contracts uneconomical for utilities in a competitive market. Legislative proposals, including the administration's, call for the prospective repeal of this provision. The mandatory purchase provision may be replaced with other regulatory requirements to ensure that these sources of energy continue to enjoy market access through, for instance, a renewable portfolio standard and a public benefit program.

This concludes our formal statement. We look forward to working with this Subcommittee in the coming months in discussing options for addressing the PMAs' role in a changing electricity industry. If you or other Members of the Subcommittee have any questions, we will be pleased to answer them.

Contact and Acknowledgment

For future contacts regarding this testimony, please contact Vic Rezendes at (202) 512-3841. Individuals making key contributions to this testimony were Peg Reese, Charles Hessler, and Daniel Garcia-Diaz.

(141350)

[21] See Electric Utilities: Deregulation and Stranded Costs, Congressional Budget Office (Oct. 1998).

Mr. DOOLITTLE. Thank you.

Mr. Richardson, there seems to be some dispute as to what the effect of competition in the electric sector will have on reliability. In other words, some have formed a conclusion that competition will enhance reliability, and other maintain that it will harm reliability.

I am unclear, I guess, where APPA is because I think they have supported an ad which indicates it will harm reliability. And that is contrast to the NERC and the Department of Energy, which have come to the opposite conclusion. Could you tell us what you think about that and what the basis for you belief it?

Mr. RICHARDSON. Well, yes, I would be happy to do that, Mr. Chairman. The ad and our concern relates to advertisements of others urging the very rapid deregulation of the industry on the assumption that such action will encourage or promote greater reliability. In fact, we think that is not the case, that rapid action today will simply enhance the power of those who are able to manipulate the marketplace to their own advantage and to the detriment of reliability.

There was a report that was released within the last couple of days by the Consumer Federation of America and Consumers Union regarding the price spikes of last summer that came to a number of conclusions, including the fact that in the opinion of those two organizations what had occurred in the price spikes in the Midwest was more a question of market manipulation than it was the natural occurrences of outages and other problems that we are experiencing with the system.

Now to the broader point, will restructuring promote reliability or will it disadvantage or place reliability at issue, I think there are a couple of responses to that, and they have to do again with the timing that I referred to. It seems to me that the very rapid restructuring that is being proposed by some of a very quick date-certain Federal mandate could well place reliability in jeopardy; particularly at this point, since we do not have mandatory reliability standards.

The American Public Power Association, along with my colleague's association, National Rural Electric Cooperative Association, the Edison Electric Institute, and others have developed consensus legislation, which, for the most part, is included in the administration's proposal on restructuring, and we strongly support that. We think that is appropriate because reliability is a very serious issue.

In the longer term, I think a very good case can be made that as we bring in new technologies, we have distributed generation, which is something the APPA has long supported, and we begin to move away from the large, central-station power plants, there are some reliability, some positive reliability consequences that can occur.

So I say, I think we are back to the point that I made at the very outset that in terms of timing and how soon this transition to these new technologies will occur and the benefits that they might hold over the longer term for a more reliable electric system.

Mr. DOOLITTLE. I am not clear in my own mind as to what their timeframe is, those who are promoting a very rapid change in this

area. But, I mean, what timeframe do you think would be reasonable?

Mr. RICHARDSON. Well, we are on a pretty fast track right now in terms of State legislation. Twenty-two is, I believe Wenona Hauter said, 23 States now, with Ohio having sent legislation to the governor, it seems to me highly likely that within the next four to five years most other States will have tackled this issue and come to some conclusions.

What has been of concern to us is Federal mandates requiring the complete customer access by—for all States, for all customers—by the end of 1999 or the beginning of the year 2000. Each State needs to move at its own pace, and the utilities within those States, particularly the self-regulated utilities such as the public power systems that I represent, need to be able to govern their own affairs and structure their activities to move into a more competitive environment.

Mr. DOOLITTLE. But let me ask you and Mr. English both—if your reaction to the GAO's findings about the lower reliability of the PMA's, the lack of money for the proper maintenance of the generation equipment, and so forth, is that a concern to your organizations?

Mr. RICHARDSON. I think we are concerned that the money that is going into the Federal Government, paid by the rates of the customers of those systems, is not getting back out and being used for the purposes intended. Funds are included in the rates that are being paid by the customers of the Power Marketing Administrations, and yet, through the appropriations process, problems with budget and accounting matters, it is not getting back to the intended, beneficiary, which is those facilities that do need to be repaired.

Mr. DOOLITTLE. Mr. English.

Mr. ENGLISH. Mr. Chairman, if I could just pick up on that? I wholeheartedly agree. Let me also say, though, that I think there are a number of issues that we would have with what the GAO has reported with regard to the PMA's. I think, again, putting this into government terms versus real-world terms—and I think most citizens of this country would have a very difficult time in understanding the calibrations of the GAO and how they came to the conclusions that they did with regard to this issue of cost to the government—it is my understanding, in the calibrations that they have used, for instance, that most of what they are talking about has to do with interest.

Now, when most people borrow money, they go down and borrow the money, and on the day that they receive the money, it is what the interest rate is that day, and that is what they normally pay. It is my understanding, as far as what the GAO does, they ignore that reality, and then, in fact, what they have done is taken a period of time when the interest rates were at the highest, and saying, even though the money was borrowed at that time from the government when the rates were that low, that doesn't matter; we need to take an average rate, which I believe is 8 percent. That is the number they used, even though the money may cost the government much, much less at the time that it was actually borrowed.

I think there is a second issue that comes into play here, and that is the reality of what has taken place through the developments of the PMA's through the years. The reality is that many of the dams were constructed and agreements were signed with regard to preference of power at a particular time, when power may even have been cheaper from other sources. But, again, you found people in the area, and we are talking about many times small towns, electric cooperatives have, in fact, reached an agreement with the government at that time to make a commitment that they would, in fact, buy power and that they would in fact pay for—let's make sure we understand that—pay for the construction of the dams.

Now what we have also seen happen, Mr. Chairman, through the years is that it isn't just good enough to pay for the dam; it isn't good enough just to pay for the cost of producing the power. But, instead, these PMA's have become something of a cash cow for various causes that may exist in the local area, and I wholeheartedly agree that many of them are very worthwhile.

Recreation, for instance, for people in the local area, that is certainly beneficial. Irrigation for many farmers in the local area, that is certainly beneficial—and certainly in assisting in the environmental causes in these areas, and that is certainly beneficial.

And we have talked about the question of fish, and certainly, particularly in the Bonneville area, we have seen enormous sums of money that are being spent by the ratepayers and those who buy power from Bonneville for dealing with the issue of salmon.

Now those are issues far beyond what we talk about simple costs and the payment of the construction of the facilities and the payment for the generation of power.

So I take great issue with that. And I think that it is something that we have really got to put in real-world terms in order for us to make certain we understand exactly what is being calculated in the way of the cost and what those costs were. Are they truly the cost to the Federal Government or are they just come calculation as to what the government should have received in the way of interest rates over some long-term average?

So the issue now of the question of whether the PMA's are operating as efficiently as they should, my colleague is absolutely right; there is no question about it that money that has been paid by the ratepayers many times is not being used for the purpose of continuing to make sure that those operation are at the peak efficiency, but are for other purposes. And I think that is wrong, Mr. Chairman.

Mr. DOOLITTLE. Would you and Mr. Richardson and your organizations support efforts to make sure that the money that is collected for those purposes is spent for those purposes?

Mr. ENGLISH. I can't speak for my colleague here, Mr. Chairman, but I would say the NRECA has long supported the fact that we will do just about anything to make sure that the money that is collected from the ratepayers for the purpose of maintaining those generating facilities is used for that purpose. We have even volunteered to collect money from the people in the local area to maintain that over and above what the rates are. But, you know, it is extremely important and extremely frustrating, Mr. Chairman.

Mr. RICHARDSON. We agree with that, Mr. Chairman.

Mr. DOOLITTLE. Thank you.

Mr. Rezendes, did you wish to comment on, or to respond to, Mr. English's observations on the GAO findings?

Mr. REZENDES. Yes. First, I would like to mention on the deferred maintenance fees, that it is the difficulty of the appropriation process, with the long lead time and competing priorities within an appropriation account that makes doing the maintenance and the kinds of business kinds of things that a private sector would do very difficult for the Federal Government to do, because whether you do maintenance on a generator or whether you are going to provide relief for hurricane victims is not a difficult choice for the Federal Government to make, one that, obviously, the private sector is not confronted with.

Getting back to the financing issue, that is only one of numerous things that the PMAs aren't recovering costs from. We also mention some retirement benefits, post-retirement health insurance issues. There's some construction cost.

But the big issue, I think, Mr. English is exactly correct, is the financing. We used a method—and I don't want to get too heavy into this in terms of what the average government portfolio is versus what the portfolio is of the various PMAs—that is a half a billion dollars a year. However, no matter what methodology you use—I don't care if you go loan by loan, which we did, and that came out even higher—no matter which methodology, no matter how you look at it, the Federal Government is not recovering the interest cost that it is incurring that the PMAs have the benefit of the money from.

In addition, PMAs, as you know, borrow money routinely over the years at various interest rates based on what they are at the time. However, they do have the option of paying back the high, and do pay back the high interest rates first and leave the low interest rates on the books, which means that only increases the amount of subsidy the Federal Government has to sustain to maintain that.

Mr. ENGLISH. Mr. Chairman, could I respond to that?

Mr. DOOLITTLE. Well, I want to follow up with another question because we are going to have a vote here in a minute.

You mentioned, Mr. Rezendes, the dams and hydroelectric power has an impact on rivers and fish, which it obviously does. Did your statement contemplate positive impacts as well as negative, or was it just negative?

Mr. REZENDES. No, it was a negative impact. And the fish mitigation costs, as you know, for just Bonneville is really a big number. I think Bonneville expects in the not-too-distant future they could be spending a billion dollars on this.

Mr. DOOLITTLE. Well, with nothing to show for all of that money, I might point out. Well, that perhaps could the subject of another GAO study.

Well, I am aware of situations—and I will direct this to Ms. Hauter, who expressed her negative view of dams—many occasions I am aware of, those dams are what create the adequate supplies of cold water to make sure there is water downstream for the fisheries. Is that not the case?

Ms. HAUTER. Overall, the effect on our waterways of dams is negative. Many problems. Dams restrict the flow of water downstream. The stagnant water that sits has effects on both fish and wildlife in the area.

And, generally, we think that dams—there needs to be mitigation. Many of the programs have failed. For instance, in the Pacific Northwest, where we would want to see the phasing-out of barging and trucking of fish and the use of spill as the primary means for juvenile fish passage, things need to be done in a better way. And there is a whole set of scientific evaluations in this area, and it can be done, and it can be done cost-effectively.

Mr. DOOLITTLE. Well, I would just observe that to only comment upon the negative aspects of dams is to ignore clear facts that they have positive, many positive benefits, not to mention the adequate water supply and the flood control, but just even looking at the environment, and of course the recreation that they provide. But I know, at least in our California situation, it is the presence of the dams that ensures the water available for the endangered fish. Now, yes, I am not saying there aren't negative consequences, too, but I think there are pluses and minuses, and I just want to get that plug in.

And with that, I am afraid, since I am the only one here, I am going to have to bring this hearing to a close.

I really appreciate the testimony that we have heard today from you, and I hope that you will answer further questions that we may have, which we will submit in writing and ask you to respond. We will hold the record open for that purpose.

[The information follows:]

Mr. DOOLITTLE. We thank you for coming.

And with that, the hearing is adjourned.

[Whereupon, at 4:25 p.m., the Subcommittee was adjourned.]